

Welcome to STN International! Enter x:x

LOGINID:sssptal813nxml

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

9/942583

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 Apr 08 "Ask CAS" for self-help around the clock  
NEWS 3 Jun 03 New e-mail delivery for search results now available  
NEWS 4 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN  
NEWS 5 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)  
now available on STN  
NEWS 6 Aug 26 Sequence searching in REGISTRY enhanced  
NEWS 7 Sep 03 JAPIO has been reloaded and enhanced  
NEWS 8 Sep 16 Experimental properties added to the REGISTRY file  
NEWS 9 Sep 16 CA Section Thesaurus available in CAPLUS and CA  
NEWS 10 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985  
NEWS 11 Oct 24 BEILSTEIN adds new search fields  
NEWS 12 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN  
NEWS 13 Nov 18 DKILIT has been renamed APOLLIT  
NEWS 14 Nov 25 More calculated properties added to REGISTRY  
NEWS 15 Dec 04 CSA files on STN  
NEWS 16 Dec 17 PCTFULL now covers WP/PCT Applications from 1978 to date  
NEWS 17 Dec 17 TOXCENTER enhanced with additional content  
NEWS 18 Dec 17 Adis Clinical Trials Insight now available on STN  
NEWS 19 Jan 29 Simultaneous left and right truncation added to COMPENDEX,  
ENERGY, INSPEC  
NEWS 20 Feb 13 CANCERLIT is no longer being updated  
NEWS 21 Feb 24 METADEX enhancements  
NEWS 22 Feb 24 PCTGEN now available on STN  
NEWS 23 Feb 24 TEMA now available on STN  
NEWS 24 Feb 26 NTIS now allows simultaneous left and right truncation  
NEWS 25 Feb 26 PCTFULL now contains images  
NEWS 26 Mar 04 SDI PACKAGE for monthly delivery of multifile SDI results  
NEWS 27 Mar 19 APOLLIT offering free connect time in April 2003  
NEWS 28 Mar 20 EVENTLINE will be removed from STN  
NEWS 29 Mar 24 PATDPAFULL now available on STN  
NEWS 30 Mar 24 Additional information for trade-named substances without  
structures available in REGISTRY  
NEWS 31 Apr 11 Display formats in DGENE enhanced  
NEWS 32 Apr 14 MEDLINE Reload  
NEWS 33 Apr 17 Polymer searching in REGISTRY enhanced  
NEWS 34 Apr 21 Indexing from 1947 to 1956 being added to records in CA/CAPLUS  
NEWS 35 Apr 21 New current-awareness alert (SDI) frequency in  
WPIDS/WPINDEX/WPIX  
NEWS 36 Apr 28 RDISCLOSURE now available on STN  
  
NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT  
MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),  
AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 16:32:33 ON 28 APR 2003

=> file biosis medline agricola embase caba japio biotechds lifesci caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.63	0.63

FILE 'BIOSIS' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC. (R)

FILE 'MEDLINE' ENTERED AT 16:34:01 ON 28 APR 2003

FILE 'AGRICOLA' ENTERED AT 16:34:01 ON 28 APR 2003

FILE 'EMBASE' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'CABA' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 CAB INTERNATIONAL (CABI)

FILE 'JAPIO' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 Japanese Patent Office (JPO) - JAPIO

FILE 'BIOTECHDS' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 THOMSON DERWENT AND INSTITUTE FOR SCIENTIFIC INFORMATION

FILE 'LIFESCI' ENTERED AT 16:34:01 ON 28 APR 2003  
COPYRIGHT (C) 2003 Cambridge Scientific Abstracts (CSA)

FILE 'CAPLUS' ENTERED AT 16:34:01 ON 28 APR 2003  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s neisseria and vaccin?  
L1 6807 NEISSERIA AND VACCIN?

=> s l1 and (cinerea or lactamica or elongata or flava or flavescens or polysaccharea or sicca or mucosa or perflava or subflava)  
L2 180 L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESCENS OR POLYSACCHAREA OR SICCA OR MUCOSA OR PERFLAVA OR SUBFLAVA)

=> s l2 and heterologous (10a) express?  
L3 3 L2 AND HETEROLOGOUS (10A) EXPRESS?

=> d bib ab 1-3

L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2003:97443 CAPLUS  
 DN 138:149364  
 TI **Neisseria** adhesins and their use in drug screening and in  
**vaccines**  
 IN Arico, Maria; Comanducci, Maurizio  
 PA Chiron S.p.A., Italy  
 SO PCT Int. Appl., 79 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003010194	A2	20030206	WO 2002-IB3396	20020726
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
	PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
	UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,				
	TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,				
	CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
	PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,				
	NE, SN, TD, TG				

PRAI GB 2001-18401 A 20010727  
 GB 2001-21591 A 20010906  
 GB 2002-11025 A 20020514

AB NadA, App and ORF40 function as adhesins in N. meningitidis. Adhesion can be modulated by targeting these three proteins. NadA allelic variants are disclosed. Autoproteolytic cleavage of App is disclosed, as is removal of the activity by mutagenesis. App is processed and secreted into culture medium when expressed in E. coli. Mature App proteins are disclosed. Knockout mutants are disclosed. Vesicles from non-Neisserial hosts with **heterologous** adhesin **expression** are disclosed. Thus, the nadA gene was found to be overrepresented in 3 hypervirulent N. meningitidis lineages. It appeared to be a foreign gene present in this subset of hypervirulent strains. NadA was shown to be exposed as an oligomer on the bacteria surface and appears to be involved in bacterial adhesion. NadA was present in at least 50% of disease-assocd. N. meningitidis, it elicited protective and bactericidal antibodies in lab animals, and each allele induced cross-bactericidal antibodies. NadA therefore appears to be a good **vaccine** antigen.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2001:207884 CAPLUS  
 DN 134:227335

TI Oral recombinant Lactobacillus plantarum **vaccines**  
 IN Shaw, David Michael; Leer, Robert Jan; Pouwels, Peter  
 PA Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek  
 TNO, Neth.  
 SO Eur. Pat. Appl., 19 pp.  
 CODEN: EPXXDW

DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1084709	A1	20010321	EP 1999-203056	19990917
	R:				
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, SI, LT, LV, FI, RO				
	WO 2001021200	A1	20010329	WO 2000-GB3575	20000918
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,  
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,  
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1212083 A1 20020612 EP 2000-962689 20000918

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL

JP 2003509469 T2 20030311 JP 2001-524624 20000918

PRAI EP 1999-203056 A 19990917

WO 2000-GB3575 W 20000918

AB The present invention relates to an oral **vaccine** comprising recombinant lactic acid bacteria **expressing heterologous** antigen in vivo intracellularly and/or the surface of the lactic acid bacterium as specific immunogenicity eliciting component for eliciting immunogenicity against the heterologous antigen, characterized in that the recombinant lactic acid bacterium is a *Lactobacillus plantarum*. Preferably, the recombinant *Lactobacillus plantarum* comprises an **expression** vector capable of **expressing** the **heterologous** antigen intracellularly and/or such that the **heterologous** antigen is exposed on the cell surface under conditions present in the gastrointestinal tract. The recombinant *Lactobacillus plantarum* is preferably a recombinant *Lactobacillus plantarum* 256. The invention also relates to a recombinant *Lactobacillus plantarum*, more specifically a recombinant strain of *Lactobacillus plantarum* 256, for use in the **vaccines** of the invention; as well as to an **expression** vector suitable for intracellular **expression** or exposure of a **heterologous** antigen encoded thereon, said **expression** vector providing **expression** in a *Lactobacillus plantarum* of the **heterologous** antigen under conditions existing in the gastrointestinal tract.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2000:608607 CAPLUS

DN 133:213155

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John;  
 Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith

PA Microbiological Research Authority, UK; Imperial College School of  
 Science, Technology and Medicine; Public Health Laboratory Service Board

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000050074	A2	20000831	WO 2000-GB624	20000222
	WO 2000050074	A3	20001228		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,  
 CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,  
 IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
 MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,  
 SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

L5 ANSWER 1 OF 3 MEDLINE  
 AN 2003030510 MEDLINE  
 DN 22425434 PubMed ID: 12538166  
 TI Gene expression profile in *Neisseria meningitidis* and *Neisseria lactamica* upon host-cell contact: from basic research to vaccine development.  
 AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G  
 CS Chiron SpA, Siena, Italy.  
 SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.  
 Journal code: 7506858. ISSN: 0077-8923.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 200303  
 ED Entered STN: 20030123  
 Last Updated on STN: 20030305  
 Entered Medline: 20030304  
 AB Differential gene regulation in the human pathogen *Neisseria meningitidis* group B (MenB) and in *Neisseria lactamica*, a human commensal species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and *N. lactamica*, respectively. Of these, only 167 were common to MenB and *N. lactamica*, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in *N. lactamica*, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili, capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact *Neisseria* undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of recombinant proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new vaccine candidates.

L5 ANSWER 2 OF 3 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 AN 2003-05834 BIOTECHDS  
 TI Identifying an antigen for manufacturing a vaccine against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;  
     recombinant protein production and use of phage display library for antigen identification useful for recombinant vaccine preparation  
 AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R  
 PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD  
 PI WO 2002077648 3 Oct 2002  
 AI WO 2002-GB1399 22 Mar 2002  
 PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001  
 DT Patent  
 LA English  
 OS WPI: 2003-018958 [01]  
 AB DERWENT ABSTRACT:

NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a **vaccine** composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a **vaccine** composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for **vaccination** against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for **vaccination** against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.

BIOTECHNOLOGY - Preferred Method: Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is *N. lactamica*, *N. cinerea*, *N. sicca*, *N. subflava*, *N. elongata*, *N. flavescens*, *N. perflava* or *N. polysaccharea*. The pathogenic bacteria is selected from the Neisseriaceae/Pasteurellaceae family of Gram negative bacteria, particularly *N. meningitidis*. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of *N. lactamica*; (b) contacting the sera with a phage display library comprising the entire *N. lactamica* genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and

characterizing the cloned *N. lactamica* genomic sequence; (e) determining the polypeptide encoded by the *N. lactamica* genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the *N. lactamica* polypeptide antigen with *N. meningitidis* genomic library to identify the *N. meningitidis* homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of *N. meningitidis* cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the *N. meningitidis* genome database; and (h) identifying as antigens those *N. meningitidis* polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a **vaccine** composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a **vaccine** composition comprising the nucleic acid sequence and a carrier. In preparing a composition for **vaccination** against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome sequence of a pathogenic *Neisseria*. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred **Vaccine** Composition: The **vaccine** composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The **vaccine** composition further comprises *Neisseria* outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - **Vaccine**.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens by identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a **vaccine** antigen which may be used in the manufacture of a medicament for **vaccination** against meningococcal infection (claimed). (310 pages)

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS  
 AN 2003:128313 CAPLUS  
 TI Gene expression profile in *Neisseria meningitidis* and *Neisseria lactamica* upon host-cell contact: from basic research to **vaccine** development  
 AU Grifantini, R.; Bartolini, E.; Muzzi, A.; Draghi, M.; Frigimelica, E.; Berger, J.; Randazzo, F.; Grandi, G.  
 CS Chiron SpA, Siena, Italy  
 SO Annals of the New York Academy of Sciences (2002), 975(Microarrays, Immune Responses, and Vaccines), 202-216  
 CODEN: ANYAA9; ISSN: 0077-8923  
 PB New York Academy of Sciences  
 DT Journal  
 LA English  
 AB Differential gene regulation in the human pathogen *Neisseria*

meningitidis group B (MenB) and in *Neisseria lactamica*, a human commensal species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and *N. lactamica*, resp. Of these, only 167 were common to MenB and *N. lactamica*, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in *N. lactamica*, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili, capsule, protein synthesis, nucleotide synthesis, cell wall metab., ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approx. 40% of the regulated genes encode putative surface-assocd. proteins, suggesting that upon cell contact *Neisseria* undergoes substantial surface remodeling. This was confirmed by FACS anal. of adhering bacteria using mouse sera against a subset of recombinant proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technol. can be exploited for the identification of new vaccine candidates.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 16:32:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, JAPIO, BIOTECHDS, LIFESCI, CAPLUS' ENTERED AT 16:34:01 ON 28 APR 2003

L1 6807 S NEISSERIA AND VACCIN?  
L2 180 S L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESC  
L3 3 S L2 AND HETEROLOGOUS (10A) EXPRESS?  
L4 54 S L2 AND COMMENSAL  
L5 3 S L4 AND RECOMBINANT

=> s commensal and nesseria

L6 0 COMMENSAL AND NESSERIA

=> dup rem l4

PROCESSING COMPLETED FOR L4

L7 15 DUP REM L4 (39 DUPLICATES REMOVED)

=> d bib ab 1-15

L7 ANSWER 1 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
1  
AN 2003:187972 BIOSIS  
DN PREV200300187972  
TI Serotype distribution, antibiotic susceptibility, and genetic relatedness of *Neisseria meningitidis* strains recently isolated in Italy.  
AU Mastrantonio, Paola (1); Stefanelli, Paola; Fazio, Cecilia; Sofia, Tonino; Neri, Arianna; La Rosa, Giuseppina; Marianelli, Cinzia; Muscillo, Michele; Caporali, Maria Grazia; Salmaso, Stefania  
CS (1) Laboratory of Bacteriology and Medical Mycology, Istituto Superiore di Sanita, Viale Regina Elena 299, 00161, Rome, Italy: pmastran@iss.it Italy  
SO Clinical Infectious Diseases, (15 February 2003) Vol. 36, No. 4, pp. 422-428. print.  
ISSN: 1058-4838.  
DT Article  
LA English



AB The availability of new polysaccharide-protein conjugate **vaccines** against **Neisseria meningitidis** serogroup C prompted European National Health authorities to carefully monitor isolate characteristics. In Italy, during 1999-2001, the average incidence was 0.4 cases per 100,000 inhabitants. Serogroup B was predominant and accounted for 75% of the isolates, followed by serogroup C with 24%. Serogroup C was isolated almost twice as frequently in cases of septicemia than in cases of meningitis, and the most common phenotypes were C: 2a:P1.5 and C:2b:P1.5. Among serogroup B meningococci, the trend of predominant phenotypes has changed from year to year, with a recent increase in the frequency of B:15:P1.4. Only a few meningococci had decreased susceptibility to penicillin, and, in the penA gene, all of these strains had exogenous DNA blocks deriving from the DNA of **commensal Neisseria flavescens**, **Neisseria cinerea**, and **Neisseria perflava/sicca**. Fluorescent amplified fragment-length polymorphism analysis revealed the nonclonal nature of the strains with decreased susceptibility to penicillin.

L7 ANSWER 2 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AN 2003-05834 BIOTECHDS

TI Identifying an antigen for manufacturing a **vaccine** against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;  
recombinant protein production and use of phage display library for antigen identification useful for recombinant **vaccine** preparation

AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R

PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD

PI WO 2002077648 3 Oct 2002

AI WO 2002-GB1399 22 Mar 2002

PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001

DT Patent

LA English

OS WPI: 2003-018958 [01]

AB DERWENT ABSTRACT:

NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a **vaccine** composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a **vaccine** composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for **vaccination** against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for **vaccination**

against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.

**BIOTECHNOLOGY - Preferred Method:** Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is *N. lactamica*, *N. cinerea*, *N.*

*sicca*, *N. subflava*, *N. elongata*, *N. flavescens*

, *N. perflava* or *N. polysaccharea*. The pathogenic

bacteria is selected from the Neisseriaceae/Pasteurellaceae family of Gram negative bacteria, particularly *N. meningitidis*. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of *N. lactamica*; (b) contacting the sera with a phage display library comprising the entire *N. lactamica* genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and characterizing the cloned *N. lactamica* genomic sequence; (e) determining the polypeptide encoded by the *N. lactamica* genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the *N. lactamica* polypeptide antigen with *N. meningitidis* genomic library to identify the *N. meningitidis* homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of *N. meningitidis* cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the *N. meningitidis* genome database; and (h) identifying as antigens those *N. meningitidis* polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a **vaccine** composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a **vaccine** composition comprising the nucleic acid sequence and a carrier. In preparing a composition for **vaccination** against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome

sequence of a pathogenic **Neisseria**. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred

**Vaccine Composition:** The **vaccine** composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The **vaccine** composition further comprises **Neisserial** outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - **Vaccine**.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens by identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a **vaccine** antigen which may be used in the manufacture of a medicament for **vaccination** against meningococcal infection (claimed). (310 pages)

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS

AN 2002:754696 CAPLUS

DN 137:293520

TI Antibody-containing sera for identifying Pathogenic and **commensal** bacteria antigens as **vaccines**

IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; West, David McKay; Oliver, Kerry Jane; Kroll, John Simon; Langford, Paul Richard

PA Microbiological Research Authority, UK; Imperial College Innovations Limited

SO PCT Int. Appl., 310 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002077648	A2	20021003	WO 2002-GB1399	20020322
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI GB 2001-7219 A 20010322

AB The invention provides methods of screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens, based upon identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. Also provided are **vaccine** compns. and methods of prepg. **vaccine** compns. comprising the antigens identified by the screening methods. Antigens and uses thereof are also described.

L7 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2

AN 2002:402588 BIOSIS

DN PREV200200402588

TI **Neisseria lactamica** protects against experimental meningococcal infection.  
 AU Oliver, Kerry J.; Reddin, Karen M.; Bracegirdle, Philippa; Hudson, Michael J.; Borrow, Ray; Feavers, Ian M.; Robinson, Andrew; Cartwright, Keith; Gorringe, Andrew R. (1)  
 CS (1) Centre for Applied Microbiology and Research, Salisbury, SP4 0JG: andrew.gorringe@camr.org.uk UK  
 SO Infection and Immunity, (July, 2002) Vol. 70, No. 7, pp. 3621-3626. print. ISSN: 0019-9567.  
 DT Article  
 LA English  
 AB Immunological and epidemiological evidence suggests that the development of natural immunity to meningococcal disease results from colonization of the nasopharynx by **commensal Neisseria** spp., particularly with **N. lactamica**. We report here that immunization with **N. lactamica** killed whole cells, outer membrane vesicles, or outer membrane protein (OMP) pools and protected mice against lethal challenge by a number of diverse serogroup B and C meningococcal isolates in a model of bacteremic infection. Sera raised to **N. lactamica** killed whole cells, OMPs, or protein pools were found to cross-react with meningococcal isolates of a diverse range of genotypes and phenotypes. The results confirm the potential of **N. lactamica** to form the basis of a **vaccine** against meningococcal disease.

L7 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3  
 AN 2002:484497 BIOSIS  
 DN PREV200200484497  
 TI In vitro induction of memory-driven responses against **Neisseria meningitidis** by priming with **Neisseria lactamica**.  
 AU Sanchez, S.; Troncoso, G.; Criado, M. T.; Ferreiros, C. (1)  
 CS (1) Departamento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, 15782, Santiago de Compostela: mpcfytc@uscmail.usc.es Spain  
 SO Vaccine, (26 July, 2002) Vol. 20, No. 23-24, pp. 2957-2963. <http://www.elsevier.com/locate/vaccine>. print. ISSN: 0264-410X.  
 DT Article  
 LA English  
 AB Natural immunity against **Neisseria meningitidis** is acquired during childhood and youth through successive colonizations by **commensal Neisseria**, carrier **N. meningitidis**, and other bacterial genera sharing cross-reactive antigens with the meningococci. We have analyzed in mice the ability of **Neisseria lactamica** strains to induce immunological memory so that, upon a later contact with **N. meningitidis**, quickly raise protective responses against antigens that show cross-reactivity with meningococcal surface proteins. Sera obtained from mice immunized with **N. lactamica** and boosted with **N. meningitidis** were able to kill meningococci, with bactericidal activities variable depending on the immunizing strains used in the assays. Different mixtures of those sera resulted in higher killing activities, which agrees with the idea that successive colonizations by **N. lactamica** enhance the anti-meningococcal response. The existence of such outer membrane cross-reactive antigens has to be kept in mind when using outer membrane vesicle (OMV)-based anti-meningococcal **vaccines** because their use can affect colonization by **N. lactamica** and other species, hampering the natural mechanisms of acquisition of immunity to the meningococci, and leaving its ecological niche free for colonization by undesirable microorganisms.

L7 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4  
 AN 2002:352603 BIOSIS

DN PREV200200352603  
TI NadA, a novel **vaccine** candidate of **Neisseria meningitidis**.  
AU Comanducci, Maurizio; Bambini, Stefania; Brunelli, Brunella; Adu-Bobie, Jeannette; Arico, Beatrice; Capecci, Barbara; Giuliani, Marzia Monica; Massignani, Vega; Santini, Laura; Savino, Silvana; Granoff, Dan M.; Caugant, Dominique A.; Pizza, Mariagrazia; Rappuoli, Rino (1); Mora, Marirosa  
CS (1) IRIS, Chiron S.p.A., via Fiorentina 1, 53100, Siena: rino\_rappuoli@chiron.it Italy  
SO Journal of Experimental Medicine, (June 3, 2002) Vol. 195, No. 11, pp. 1445-1454. <http://www.jem.org>. print.  
ISSN: 0022-1007.  
DT Article  
LA English  
AB **Neisseria meningitidis** is a human pathogen, which, in spite of antibiotic therapy, is still a major cause of mortality due to sepsis and meningitis. Here we describe NadA, a novel surface antigen of *N. meningitidis* that is present in 52 out of 53 strains of hypervirulent lineages electrophoretic types (ET) ET37, ET5, and cluster A4. The gene is absent in the hypervirulent lineage III, in *N. gonorrhoeae* and in the **commensal** species *N. lactamica* and *N. cinerea*. The guanine/cytosine content, lower than the chromosome, suggests acquisition by horizontal gene transfer and subsequent limited evolution to generate three well-conserved alleles. NadA has a predicted molecular structure strikingly similar to a novel class of adhesins (YadA and UspA2), forms high molecular weight oligomers, and binds to epithelial cells in vitro supporting the hypothesis that NadA is important for host cell interaction. NadA induces strong bactericidal antibodies and is protective in the infant rat model suggesting that this protein may represent a novel antigen for a **vaccine** able to control meningococcal disease caused by three hypervirulent lineages.

L7 ANSWER 7 OF 15 MEDLINE DUPLICATE 5  
AN 2003030510 MEDLINE  
DN 22425434 PubMed ID: 12538166  
TI Gene expression profile in **Neisseria meningitidis** and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development.  
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G  
CS Chiron SpA, Siena, Italy.  
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.  
Journal code: 7506858. ISSN: 0077-8923.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200303  
ED Entered STN: 20030123  
Last Updated on STN: 20030305  
Entered Medline: 20030304  
AB Differential gene regulation in the human pathogen **Neisseria meningitidis** group B (MenB) and in **Neisseria lactamica**, a human **commensal** species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and *N. lactamica*, respectively. Of these, only 167 were common to MenB and *N. lactamica*, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in *N. lactamica*, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili,

PI WO 2000050074 A2 20000831 WO 2000-GB624 20000222  
 WO 2000050074 A3 20001228  
 W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 EP 1154791 A2 20011121 EP 2000-905182 20000222  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO  
 JP 2002537352 T2 20021105 JP 2000-600684 20000222  
 US 2003026809 A1 20030206 US 2001-942583 20010831  
 US 2003021812 A1 20030130 US 2002-185769 20020701  
 PRAI GB 1999-4028 A 19990222  
 GB 1999-22561 A 19990923  
 WO 2000-GB624 W 20000222  
 US 2001-914041 A1 20010822  
 AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an ext. of a **commensal Neisseria**. Further methods and compns. comprise **commensal Neisseria** which express genes from virulent strains of **Neisseria** and/or heterologous gene products from non-neisserial sources. Such compns. are used in **vaccine** preps. for the treatment of microbial infection.  
 L7 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7  
 AN 2000:228224 BIOSIS  
 DN PREV200000228224  
 TI Phosphorylcholine decoration of lipopolysaccharide differentiates **commensal Neisseriae** from pathogenic strains: Identification of **licA**-type genes in **commensal Neisseriae**.  
 AU Serino, Laura; Virji, Mumtaz (1)  
 CS (1) Department of Pathology and Microbiology, School of Medical Sciences, University of Bristol, Bristol, BS8 1TD UK  
 SO Molecular Microbiology, (March, 2000) Vol. 35, No. 6, pp. 1550-1559. ISSN: 0950-382X.  
 DT Article  
 LA English  
 SL English  
 AB Phosphorylcholine (ChoP) is a potential candidate for a plurispecific **vaccine**, because it is present on surface components of many mucosal organisms, including *Haemophilus influenzae*, *Streptococcus pneumoniae* and *Pseudomonas aeruginosa*. In addition, ChoP has been detected on pili of **Neisseria meningitidis** and **Neisseria gonorrhoeae**. In this study, we demonstrate the presence of the phosphorylcholine epitope on the lipopolysaccharides (LPSs) of several species of **commensal Neisseriae** (Cn), a property that differentiates **commensal** from the pathogenic strains of **Neisseriae**. In an extended survey of 78 strains, we confirmed the exclusive expression of the ChoP epitope on pili of pathogenic **Neisseriae**. Despite the presence of pili on Cn, which are homologous to Class II pili of *N. meningitidis*, they did not react with anti-ChoP antibody. This observation was further supported by the fact that <sup>14</sup>C-labelled choline was incorporated only in the LPSs of Cn. Analysis of the LPS of **N. lactamica** strain NL4 revealed two distinct and interconvertible molecular species of LPS with high and low levels of reactivity with anti-ChoP antibody. In addition, on/off phase variation gave rise to

LA English  
 SL English  
 AB Two mouse sera against outer membrane proteins from a pathogenic **Neisseria meningitidis** strain and a **commensal N. lactamica** strain and two human sera from patients recovering from meningococcal meningitis were used to identify antigens common to pathogenic and **commensal Neisseria** species. Two major antigens of 55 kDa and 32 kDa, present in all *N. meningitidis* and *N. lactamica* strains tested, were demonstrable with all the sera used; the 55-kDa protein was iron-regulated. Demonstration of other common antigens was dependent on the serum used: a 65-kDa antigen was visualised with the human and the mouse anti-*N. lactamica* sera; a 37-kDa antigen identified as the meningococcal ferric binding protein (FbpA) was only detected with the mouse sera, and two antigens of 83 kDa and 15 kDa were only shown with the mouse anti-*N. meningitidis* serum. The results demonstrate the existence of several outer membrane antigens common to *N. lactamica* and *N. meningitidis* strains, in agreement with the hypothesis that natural immunity against meningitis is partially acquired through colonisation by **commensal** species, and open new perspectives for the design of **vaccine** formulations and the development of strategies for **vaccination** against meningitis.

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS  
 AN 1997:79834 CAPLUS  
 DN 126:143095  
 TI Antigenicity, cross-reactivity and surface exposure of the **Neisseria meningitidis** 37 kDa protein (Fbp)  
 AU Gomez, J. A.; Agra, C.; Ferron, L.; Powell, N.; Pintor, M.; Criado, M. T.; Ferreiros, C. M.  
 CS Departamento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, Santiago de Compostela, 15701, Spain  
 SO Vaccine (1996), 14(14), 1340-1346  
 CODEN: VACCDE; ISSN: 0264-410X  
 PB Elsevier  
 DT Journal  
 LA English  
 AB The 37 kDa iron-repressible protein, Fbp, was purified from two **Neisseria meningitidis** strains by metal-affinity chromatog. and used to obtain mouse monospecific polyclonal immune sera. Dot-blot, immunoblotting and whole cell ELISA results demonstrate that the Fbp is present in all 16 *N. meningitidis* and four **commensal Neisseria** species tested, is highly antigenic in mouse when injected in pure form, and shows intra- and inter-species antigenic homogeneity, anti-Fbp antibodies being fully cross-reactive using the techniques mentioned. The authors also found that Fbp mols. (or parts of them) are surface exposed, in disagreement with the proposed exclusively periplasmic localization, although anti-Fbp antibodies seem unable to block iron uptake or to induce complement-mediated killing of the meningococci. Taken along with the high immunogenicity of the purified protein and the complete cross-reactivity of the antibodies elicited, this suggests that the protective effect of the purified Fbp must be further studied to evaluate its inclusion in future **vaccine** trials.

L7 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 10  
 AN 1993:165858 BIOSIS  
 DN PREV199395086908  
 TI Localization of the meningococcal receptors for human transferrin.  
 AU Ala'aldeen, Dlawer A. A. (1); Powell, Nicholas B. L.; Wall, Robert A.; Borriello, S. Peter  
 CS (1) Microbial Pathogenicity Res. Group, Dep. Microbiol., Queen's Med. Cent., Nottingham NG7 2UH UK

SO Infection and Immunity, (1993) Vol. 61, No. 2, pp. 751-759.  
ISSN: 0019-9567.

DT Article

LA English

AB The interaction between gold-labelled human transferrin (Au-HTF) with live meningococci (*Neisseria meningitidis*) after growth in vivo or in different in vitro conditions was examined by electron microscopy to localize and quantify the numbers of HTF-binding sites on the cell surface. It was clearly demonstrated that HTF binds to the surface of live meningococci (of different serogroups and serotypes) after growth in either iron-sufficient or iron-restricted cultures, although the degree of labelling was always higher (2- to 35-fold) in the latter case. The **commensal Neisseria polysaccharae** behaved similarly. Ultrathin sections showed that Au-HTF was localized predominantly on the outer membrane of the cells and vesicles, with hardly any internalization. Au-HTF labelled on meningococci was significantly reduced after incubation with unlabelled HTF or with rabbit antiserum containing antibodies against transferrin-binding proteins (TBPs), demonstrating the specificity of the interaction. These sera also blocked binding between HTF and outer membrane proteins on Western immunoblots. Direct evidence of the expression of the TBPs (Western blots) and localization of the HTF receptor (electron microscopy) on in vivo-grown meningococci was obtained from organisms derived without laboratory culturing from the cerebrospinal fluid of a patient. There was considerable cell-to-cell variation in the amount of labelling present on cells of the same sample (in vitro- or in vivo-grown organisms) and between different strains. The degree of binding varied with time of incubation of the cells with Au-HTF. The gold particles frequently formed discrete circles on the cell surfaces of the in vitro-grown organisms; these circles appear to be associated with outer membrane vesicle formation. The results show that the TBPs, which form part of the active components of the HTF receptor(s), are expressed in vivo and are surface exposed and immunogenic and that antibodies against them can interfere with the HTF binding of the meningococcal cells, which may affect iron utilization. This study further supports the concept of regarding the TBPs as future **vaccine** candidates.

L7 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11

AN 1989:515705 BIOSIS

DN BA88:131848

TI DETECTION OF ANTIBODIES TO COMMON ANTIGENS OF PATHOGENIC AND **COMMENSAL NEISSERIA** SPECIES.

AU CANN K J; ROGERS T R

CS DEP. MED. MICROBIOLOGY, CHARING CROSS WESTMINSTER MED. SCH., 17 HORSEFERRY ROAD, LONDON SW1.

SO J MED MICROBIOL, (1989) 30 (1), 23-32.  
CODEN: JMMIAV. ISSN: 0022-2615.

FS BA; OLD

LA English

AB Sera from 29 children and six adults were used to investigate the nature of antigenic cross-reactivity between *Neisseria polysaccharea*, *N. lactamica* and *N. meningitidis* B,15P1.16 by immunoblotting. Major common antigens of 68-70 Kda, 60-65 Kda and 15-20 Kda were detected. Antibody directed against them uniformly decreased after absorption of the sera with the three different *Neisseria* species. Antigens of 55 Kda and 35 Kda specific to *N. meningitidis*, and one of 43 Kda specific to *N. lactamica*, were also demonstrated. Antibody against all antigens was more prevalent in bactericidal than in non-bactericidal sera, although these differences were statistically not significant. Differences in antibody prevalence between carriers of *Neisseria* spp. and non-carriers of these organisms were even less marked. Examination of sera by whole-cell enzyme-linked immunosorbent assay against *N. meningitidis* B,15P1.16 and *N.*



**lactamica** gave an absorbance ratio of 1:1. Only four sera from children showed no reactivity against the meningococcal strain. These common antigens are likely to be important in **vaccine** development.

=> s neisseria and commensal

L8 592 NEISSERIA AND COMMENSAL

=> s l8 and heterologous (10a) express?

L9 1 L8 AND HETEROLOGOUS (10A) EXPRESS?

=> d bib

L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

AN 2000:608607 CAPLUS

DN 133:213155

TI Neisserial vaccine compositions and methods

IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith

PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000050074	A2	20000831	WO 2000-GB624	20000222
	WO 2000050074	A3	20001228		
	W:		AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:		GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	EP 1154791	A2	20011121	EP 2000-905182	20000222
	R:		AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO		
	JP 2002537352	T2	20021105	JP 2000-600684	20000222
	US 2003026809	A1	20030206	US 2001-942583	20010831
	US 2003021812	A1	20030130	US 2002-185769	20020701
PRAI	GB 1999-4028	A	19990222		
	GB 1999-22561	A	19990923		
	WO 2000-GB624	W	20000222		
	US 2001-914041	A1	20010822		

=> s neisserial vaccin? and heterologous

L10 2 NEISSERIAL VACCIN? AND HETEROLOGOUS

=> d bib ab 1-2

L10 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AN 2000-14107 BIOTECHDS

TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using **Neisserial vaccine**; meningitis infection therapy and vaccination

AU Robinson A; Gorringe A R; Hudson M J; Bracegirdle P; Kroll J S;

Cartwright K  
PA Cent.Appl.Microbiol.Res.Porton-Down; Univ.London; Public-Health-Lab.U.K.  
LO Salisbury, UK; London, UK.  
PI WO 2000050074 31 Aug 2000  
AI WO 2000-GB624 22 Feb 2000  
PRAI GB 99022561 23 Sep 1999; GB 1999-4028 22 Feb 1999  
DT Patent  
LA English  
OS WPI: 2000-549378 [50]  
AB A novel vaccine composition (I) with a commensal Neisseria sp. or an immunogenic component, extract or derivative of, is claimed. Also claimed are: a composition for eliciting an immune response and suitable for use in vaccinating an individual against neisserial infection, using an antigenic component having the properties; mol.wt. 40,000-90,000 or 70,000; obtainable from commensal Neisseria sp.; and antibodies against the component cross-reacting with Neisseria meningitidis K454; a method of extracting a protein for incorporation in a composition suitable for vaccinating against meningococcal disease, by suspending Neisseria sp. cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells; a vector with a gene coding for a **heterologous** gene product; a Neisseria sp. host cell for transformation with the vector; and obtaining an immunogenic component or extract from the culture of the Neisseria sp. host cell. The vaccines are used to protect against microbial infections, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrhoeal infection. (35pp)

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS

AN 2000:608607 CAPLUS

DN 133:213155

TI **Neisserial vaccine** compositions and methods

IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith

PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000050074	A2	20000831	WO 2000-GB624	20000222
	WO 2000050074	A3	20001228		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP	1154791	A2	20011121	EP 2000-905182	20000222
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	JP 2002537352	T2	20021105	JP 2000-600684	20000222
	US 2003026809	A1	20030206	US 2001-942583	20010831
	US 2003021812	A1	20030130	US 2002-185769	20020701
PRAI	GB 1999-4028	A	19990222		
	GB 1999-22561	A	19990923		
	WO 2000-GB624	W	20000222		
	US 2001-914041	A1	20010822		

AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal Neisseria or an ext. of a commensal Neisseria. Further methods and compns. comprise commensal Neisseria which express genes from virulent strains of Neisseria and/or **heterologous** gene products from non-neisserial sources. Such compns. are used in vaccine preps. for the treatment of microbial infection.

=> d his

(FILE 'HOME' ENTERED AT 16:32:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, JAPIO, BIOTECHDS, LIFESCI, CAPLUS' ENTERED AT 16:34:01 ON 28 APR 2003

L1 6807 S NEISSERIA AND VACCIN?  
L2 180 S L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESC  
L3 3 S L2 AND HETEROLOGOUS (10A) EXPRESS?  
L4 54 S L2 AND COMMENSAL  
L5 3 S L4 AND RECOMBINANT  
L6 0 S COMMENSAL AND NESSERIA  
L7 15 DUP REM L4 (39 DUPLICATES REMOVED)  
L8 592 S NEISSERIA AND COMMENSAL  
L9 1 S L8 AND HETEROLOGOUS (10A) EXPRESS?  
L10 2 S NEISSERIAL VACCIN? AND HETEROLOGOUS

=> s 18 and recombinant

L11 26 L8 AND RECOMBINANT

=> dup rem l11

PROCESSING COMPLETED FOR L11

L12 17 DUP REM L11 (9 DUPLICATES REMOVED)

=> d bib ab 1-17

L12 ANSWER 1 OF 17 MEDLINE DUPLICATE 1  
AN 2003141627 IN-PROCESS  
DN 22543387 PubMed ID: 12657800  
TI Purification, characterization and preliminary X-ray crystallographic studies on Neisseria gonorrhoeae Gly1ORF1.  
AU Arvidson Dennis N; Pearson Robert F; Arvidson Cindy Grove  
SO ACTA CRYSTALLOGRAPHICA. SECTION D: BIOLOGICAL CRYSTALLOGRAPHY, (2003 Apr) 59 (Pt 4) 747-8.  
Journal code: 9305878. ISSN: 0907-4449.  
CY Denmark  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS IN-PROCESS; NONINDEXED; Priority Journals  
ED Entered STN: 20030327  
Last Updated on STN: 20030327  
AB Gly1ORF1 is a protein produced by the two pathogenic **Neisseria** species, *N. gonorrhoeae* and *N. meningitidis*, but not by **commensal Neisseria**, suggesting that it may be involved in pathogenesis. The protein has a signal sequence that is cleaved, is associated with outer membrane fractions of *N. gonorrhoeae* (GC) and is found in spent media and in outer-membrane fractions when expressed in *Escherichia coli*. GC strains with null mutations of the gly1 locus have increased toxicity to human fallopian tubes in organ culture, suggesting that Gly1ORF1 may alter the amount or properties of toxic moieties produced by GC [Arvidson et al. (1999), infect. Immun. 67, 643-652]. In an effort to understand the function of Gly1ORF1 and its role in pathogenesis, structural biology studies have been initiated. Here, the purification, characterization by dynamic light scattering, crystallization and preliminary X-ray

crystallographic studies of **recombinant** Gly1ORF1 are reported. Dynamic light scattering indicated the protein to be a dimer in solution. The crystals belonged to space group P6(3), with unit-cell parameters a = 95.2, b = 95.2, c = 83.7 Å and two molecules per asymmetric unit. The crystals diffracted to 2.4 Å using a conventional X-ray source.

L12 ANSWER 2 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AN 2003-05834 BIOTECHDS  
TI Identifying an antigen for manufacturing a vaccine against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;  
**recombinant** protein production and use of phage display library for antigen identification useful for **recombinant** vaccine preparation  
AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R  
PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD  
PI WO 2002077648 3 Oct 2002  
AI WO 2002-GB1399 22 Mar 2002  
PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001  
DT Patent  
LA English  
OS WPI: 2003-018958 [01]  
AB DERWENT ABSTRACT:  
NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a vaccine composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a vaccine composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for vaccination against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for vaccination against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.  
BIOTECHNOLOGY - Preferred Method: Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are

displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is *N. lactamica*, *N. cinerea*, *N. sicca*, *N. subflava*, *N. elongata*, *N. flavescens*, *N. perflava* or *N. polysaccharea*. The pathogenic bacteria is selected from the *Neisseriaceae*/*Pasteurellaceae* family of Gram negative bacteria, particularly *N. meningitidis*. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a vaccine composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of *N. lactamica*; (b) contacting the sera with a phage display library comprising the entire *N. lactamica* genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and characterizing the cloned *N. lactamica* genomic sequence; (e) determining the polypeptide encoded by the *N. lactamica* genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the *N. lactamica* polypeptide antigen with *N. meningitidis* genomic library to identify the *N. meningitidis* homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a vaccine composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of *N. meningitidis* cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the *N. meningitidis* genome database; and (h) identifying as antigens those *N. meningitidis* polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a vaccine composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a vaccine composition comprising the nucleic acid sequence and a carrier. In preparing a composition for vaccination against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome sequence of a pathogenic **Neisseria**. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred Vaccine Composition: The vaccine composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The vaccine composition further comprises *Neisseria* outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified vaccine antigens by

identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a vaccine antigen which may be used in the manufacture of a medicament for vaccination against meningococcal infection (claimed). (310 pages)

L12 ANSWER 3 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
AN 2002:392656 BIOSIS  
DN PREV200200392656  
TI Genetic diversity of three lgt loci for biosynthesis of lipooligosaccharide (LOS) in **Neisseria** species.  
AU Zhu, Peixuan (1); Klutch, Michael J.; Bash, Margaret C.; Tsang, Raymond S. W.; Ng, Lai-King; Tsai, Chao-Ming  
CS (1) Division of Bacterial, Parasitic and Allergenic Products, Center for Biologics Evaluation and Research, FDA, 8800 Rockville Pike, Bethesda, MD, 20892; Zhu@cber.fda.gov USA  
SO Microbiology (Reading), (June, 2002) Vol. 148, No. 6, pp. 1833-1844. print.  
ISSN: 1350-0872.  
DT Article  
LA English  
AB Lipooligosaccharide (LOS) is a major virulence factor of the pathogenic **Neisseria**. Nine lgt genes at three chromosomal loci (lgt-1, 2, 3) encoding the glycosyltransferases responsible for the biosynthesis of LOS oligosaccharide chains were examined in 26 **Neisseria** meningitidis, 51 **Neisseria** gonorrhoeae and 18 **commensal Neisseria** strains. DNA hybridization, PCR and nucleotide sequence data were compared to previously reported lgt genes. Analysis of the genetic organization of the lgt loci revealed that in *N. meningitidis*, the lgt-1 and lgt-3 loci were hypervariable genomic regions, whereas the lgt-2 locus was conserved. In *N. gonorrhoeae*, no variability in the composition or organization of the three lgt loci was observed. lgt genes were detected only in some **commensal Neisseria** species. The genetic organization of the lgt-1 locus was classified into eight types and the lgt-3 locus was classified into four types. Two types of arrangement at lgt-1 (II and IV) and one type of arrangement at lgt-3 (IV) were novel genetic organizations reported in this study. Based on the three lgt loci, 10 LOS genotypes of *N. meningitidis* were distinguished. Phylogenetic analysis revealed a gene cluster, lgtH, which separated from the homologous genes lgtB and lgtE. The lgtH and lgtE genes were mutually exclusive and were located at the same position in lgt-1. The data demonstrated that pathogenic and **commensal Neisseria** share a common lgt gene pool and horizontal gene transfer appears to contribute to the genetic diversity of the lgt loci in **Neisseria**

L12 ANSWER 4 OF 17 MEDLINE DUPLICATE 2  
AN 2003030510 MEDLINE  
DN 22425434 PubMed ID: 12538166  
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria** lactamica upon host-cell contact: from basic research to vaccine development.  
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G  
CS Chiron SpA, Siena, Italy.  
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.  
Journal code: 7506858. ISSN: 0077-8923.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200303  
ED Entered STN: 20030123  
Last Updated on STN: 20030305

Entered Medline: 20030304

AB Differential gene regulation in the human pathogen **Neisseria meningitidis** group B (MenB) and in **Neisseria lactamica**, a human **commensal** species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and *N. lactamica*, respectively. Of these, only 167 were common to MenB and *N. lactamica*, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in *N. lactamica*, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili, capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact **Neisseria** undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of **recombinant** proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new vaccine candidates.

L12 ANSWER 5 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AN 2002-02161 BIOTECHDS  
TI Non-neisserial cells useful in manufacturing of vaccines without the loss of antigenicity of the native protein, against meningococcal diseases such as meningitis, express a **recombinant** neisserial iron uptake protein;

plasmid pMTL2010-mediated **Neisseria meningitidis** transferrin binding protein gene transfer and expression in *Escherichia coli* for **recombinant** vaccine and infection therapy

AU Gorringer A R; Hudson M J; Matheson M A; Robinson A; West D M  
PA Cent.Appl.Microbiol.Res.Porton-Down  
LO Salisbury, UK.

PI WO 2001073080 4 Oct 2001  
AI WO 2001-GB1348 27 Mar 2001  
PRAI GB 2000-7433 27 Mar 2000

DT Patent  
LA English

OS WPI: 2001-616522 [71]

AB A non-neisserial cell (I, e.g. *Escherichia coli*) expressing a neisserial (e.g. **Neisseria meningitidis** K454) iron uptake protein (II), where (II) can be extracted from the cell under mild conditions and retains substantially the antigenicity of native iron uptake protein is claimed. Also claimed are: a cell over-expressing (II), where (II) is located in an outer surface membrane of the cell; producing (II) involves: expressing a **recombinant** iron uptake protein (preferably transferrin binding protein (Tbp)) gene in a non-neisserial cell host or in a **commensal** pathogenic neisserial host; expressing the protein; and translocating the protein to a surface membrane of the host; preparing a vaccine by obtaining (II); an expression construct (e.g. plasmid pMTL2010) containing a DNA sequence encoding an iron uptake protein and a signal peptide sequence directing the expressed protein to a surface membrane of the host; an affinity matrix for the purification of Tbps; and producing a neisserial Tbp. (I) is useful in the manufacture of Tbp. Tbp is useful as **recombinant** vaccines to treat gonococcal or meningococcal diseases such as meningitis. (57pp)

L12 ANSWER 6 OF 17 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

AN 2001314723 EMBASE  
 TI Prospects offered by genome studies for combating meningococcal disease by vaccination.  
 AU Suker J.; Feavers I.M.  
 CS J. Suker, Division of Bacteriology, Natl. Inst. Biol. Standards/Control, Blanche Lane, South Mimms, Potters Bar, Herts. EN6 3QG, United Kingdom. jsuker@nibsc.ac.uk  
 SO Pharmacogenomics, (2001) 2/3 (273-283).  
 Refs: 84  
 ISSN: 1462-2416 CODEN: PARMFL  
 CY United Kingdom  
 DT Journal; General Review  
 FS 004 Microbiology  
 005 General Pathology and Pathological Anatomy  
 017 Public Health, Social Medicine and Epidemiology  
 026 Immunology, Serology and Transplantation  
 030 Pharmacology  
 037 Drug Literature Index  
 LA English  
 SL English  
 AB Meningococcal disease was first recognised and **Neisseria** meningitidis isolated as the causative agent over 100 years ago, but despite more than a century of research, attempts to eliminate this distressing illness have so far been thwarted. The main problem lies in the fact that *N. meningitidis* usually exists as a harmless **commensal** inhabitant of the human nasopharynx, the pathogenic state being the exception rather than the norm. As man is its only host, the meningococcus is uniquely adapted to this ecological niche and has evolved an array of mechanisms for evading clearance by the human immune response. Progress has been made in combating the disease by developing vaccines that target specific pathogenic serogroups of meningococci. However, a fully comprehensive vaccine that protects against all pathogenic strains is still just beyond reach. The publication of the genome sequences of two meningococcal strains, one each from serogroups A and B and the imminent completion of a third illustrates the extent of the problems to be overcome, namely the vast array of genetic mechanisms for the generation of meningococcal diversity. Fortunately, genome studies also provide new hope for solutions to these problems in the potential for a greater understanding of meningococcal pathogenesis and possibilities for the identification of new vaccine candidates. This review describes some of the approaches that are currently being used to exploit the information from meningococcal genome sequences and seeks to identify future prospects for combating meningococcal disease.

L12 ANSWER 7 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 AN 2001:334189 BIOSIS  
 DN PREV200100334189  
 TI Analysis of the expression of the putatively virulence-associated neisserial protein RmpM (class 4) in **commensal Neisseria** and *Moraxella catarrhalis* strains.  
 AU Troncoso, Gemma; Sanchez, Sandra; Kolberg, Jan; Rosenqvist, Einar; Veiga, Manuel; Ferreiros, Carlos M.; Criado, Maria-Teresa (1)  
 CS (1) Departamento de Microbiologia, Facultad de Farmacia, Universidad de Santiago de Compostela, 15706, Santiago: mpcfytc@uscmail.usc.es Spain  
 SO FEMS Microbiology Letters, (30 May, 2001) Vol. 199, No. 2, pp. 171-176. print.  
 ISSN: 0378-1097.  
 DT Article  
 LA English  
 SL English  
 AB The RmpM protein has been reported to be present only in pathogenic **Neisseria** species. In the present study we demonstrate that this protein is also present at least in *N. lactamica* and *N. sicca* strains. The



N. lactamica protein reacts with a RmpM-specific monoclonal antibody (185,H-8), having a molecular mass (apprx31 kDa) slightly lower than that of the meningococcal RmpM, and mouse antibodies from sera against outer membrane vesicles from both N. lactamica and N. sicca strains cross-react with the meningococcal RmpM. PCR and hybridization experiments with a complete rmpM probe agree with the immunodetection experiments. Our results strongly suggest that the meningococcal RmpM should not be considered a virulence marker, and the presence of this protein in the **commensal** species agrees with its role as a structural protein, proposed for the RmpM, which should be considerably conserved in the **Neisseria** species.

- L12 ANSWER 8 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AN 2001-02703 BIOTECHDS  
TI Composition having genetically modified live oral **commensal** bacteria which express immuogenic fragments of mucosal pathogens, used as oral vaccines to treat host against Bordetella pertussis, polio virus infection;  
    **recombinant** vaccine construction by e.g. pathogen antigen surface display on Streptococcus sp.  
AU Lee S F; Halperin S A  
PA Univ.Dalhousie  
LO Halifax, Nova Scotia, Canada.  
PI WO 2000064457 2 Nov 2000  
AI WO 2000-US10954 21 Apr 2000  
PRAI US 1999-298135 23 Apr 1999  
DT Patent  
LA English  
OS WPI: 2000-687261 [67]  
AB A composition (I) for stimulating protection against infection by a pathogen, comprising a live **commensal** oral organism (II) genetically modified to express multiple immunogenic fragments of the pathogen, is claimed. The **commensal** oral organism is preferably a bacterium expressing immunogenic fragment(s) of one or more pathogens, such as a mucosal pathogen such as Bordetella pertussis. The pathogen is preferably Bordetella pertussis, respiratory-syncytial virus, polio virus, Mycoplasma pneumoniae, Meningococcus, diphtheriae, Clostridium tetani, hepatitis B virus, **Neisseria** gonorrhoeae, Haemophilus influenzae, Chlamydia pneumoniae, Chlamydia trachomatis, Moraxella catarrhalis and the vaccine is a live **recombinant** vaccine. (52pp)
- L12 ANSWER 9 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AN 2000-14107 BIOTECHDS  
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial vaccine;  
    meningitis infection therapy and vaccination  
AU Robinson A; Gorringe A R; Hudson M J; Bracegirdle P; Kroll J S; Cartwright K  
PA Cent.Appl.Microbiol.Res.Porton-Down; Univ.London; Public-Health-Lab.U.K.  
LO Salisbury, UK; London, UK.  
PI WO 2000050074 31 Aug 2000  
AI WO 2000-GB624 22 Feb 2000  
PRAI GB 99022561 23 Sep 1999; GB 1999-4028 22 Feb 1999  
DT Patent  
LA English  
OS WPI: 2000-549378 [50]  
AB A novel vaccine composition (I) with a **commensal** **Neisseria** sp. or an immunogenic component, extract or derivative of, is claimed. Also claimed are: a composition for eliciting an immune response and suitable for use in vaccinating an individual against neisserial infection, using an antigenic component having the properties; mol.wt. 40,000-90,000 or 70,000; obtainable from **commensal**

**Neisseria** sp.; and antibodies against the component cross-reacting with **Neisseria meningitidis** K454; a method of extracting a protein for incorporation in a composition suitable for vaccinating against meningococcal disease, by suspending **Neisseria** sp. cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells; a vector with a gene coding for a heterologous gene product; a **Neisseria** sp. host cell for transformation with the vector; and obtaining an immunogenic component or extract from the culture of the **Neisseria** sp. host cell. The vaccines are used to protect against microbial infections, particularly meningococcal disease. **Neisseria** infections which may be protected against also include gonorrheal infection. (35pp)

L12 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:204511 CAPLUS  
 DN 135:2015  
 TI Degradation of heme in gram-negative bacteria: the product of the hemO gene of **Neisseriae** is a heme oxygenase  
 AU Zhu, Wenming; Wilks, Angela; Stojiljkovic, Igor  
 CS Department of Microbiology and Immunology, Emory School of Medicine, Atlanta, GA, 30322, USA  
 SO Journal of Bacteriology (2000), 182(23), 6783-6790  
 CODEN: JOBAAY; ISSN: 0021-9193  
 PB American Society for Microbiology  
 DT Journal  
 LA English  
 AB A full-length heme oxygenase gene from the gram-neg. pathogen **Neisseria meningitidis** was cloned and expressed in *Escherichia coli*. Expression of the enzyme yielded sol. catalytically active protein and caused accumulation of biliverdin within the *E. coli* cells. The purified HemO forms a 1:1 complex with heme and has a heme protein spectrum similar to that previously reported for the purified heme oxygenase (HmuO) from the gram-pos. pathogen *Corynebacterium diphtheriae* and for eukaryotic heme oxygenases. The overall sequence identity between HemO and these heme oxygenases is, however, low. In the presence of ascorbate or the human NADPH cytochrome P 450 reductase system, the heme-HemO complex is converted to ferric-biliverdin IX.alpha. and carbon monoxide as the final products. Homologs of the hemO gene were identified and characterized in six commensal **Neisseria** isolates, **Neisseria lactamica**, **Neisseria subflava**, **Neisseria flava**, **Neisseria polysacchareae**, **Neisseria kochii**, and **Neisseria cinerea**. All HemO orthologs shared between 95 and 98% identity in amino acid sequences with functionally important residues being completely conserved. This is the first heme oxygenase identified in a gram-neg. pathogen. The identification of HemO as a heme oxygenase provides further evidence that oxidative cleavage of the heme is the mechanism by which some bacteria acquire iron for further use.  
 RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 AN 1999:248225 BIOSIS  
 DN PREV199900248225  
 TI Hypermutation in pathogenic bacteria: Frequent phase variation in meningococci is a phenotypic trait of a specialized mutator biotype.  
 AU Bucci, Cecilia; Lavitola, Alfredo; Salvatore, Paola; Del Giudice, Luigi; Massardo, Domenica Rita; Bruni, Carmelo B. (1); Alifano, Pietro  
 CS (1) Dipartimento di Biologia e Patologia, Cellulare e Molecolare "L. Califano", Centro di Endocrinologia ed Oncologia Sperimentale "G. Salvatore" of the Consiglio Nazionale delle Ricerche, Universita di Napoli "Federico II", Via S. Pansini 5, 80131, Napoli Italy

conserved and a *neisseria*-unique antigenic Hsp60 determinant, respectively, could thus be deduced to result from single amino acid substitutions. Analysis of the antibody response in patients' sera demonstrated reactivity with the same fusion polypeptides in six out of nine sera, indicating that *neisserial* Hsp60 is expressed during the natural infection and that distinct domains on the protein are immunodominant in vivo.

L12 ANSWER 15 OF 17 MEDLINE  
AN 95020543 MEDLINE  
DN 95020543 PubMed ID: 7934834  
TI A novel determinant (comA) essential for natural transformation competence in *Neisseria gonorrhoeae* and the effect of a comA defect on pilin variation.  
AU Facius D; Meyer T F  
CS Max-Planck-Institut fur Biologie, Abteilung Infektionsbiologie, Tübingen, Germany.  
SO MOLECULAR MICROBIOLOGY, (1993 Nov) 10 (4) 699-712.  
Journal code: 8712028. ISSN: 0950-382X.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199411  
ED Entered STN: 19941222  
Last Updated on STN: 19990129  
Entered Medline: 19941121  
AB A novel genetic determinant (comA) has been identified and found to be required for the transformation of piliated *Neisseria gonorrhoeae*. Mutants in comA of strain MS11 grow normally and are DNA-uptake proficient but blocked in the translocation of DNA into the cytoplasm. Here we show by site-specific mutagenesis and genetic complementation that only one of two open reading frames identified in comA is essential for competence: it encodes a protein (ComA) with a predicted size of 74 kDa. The comA gene maps upstream of the iga locus and is transcribed in the opposite orientation, probably under the control of a putative sigma 54-type promoter. While DNA probes specific for the *N. gonorrhoeae* iga locus reveal only a little cross-reactivity with **commensal Neisseria** species, the neighbouring comA gene appears to be present in most of them. ComA fusion proteins were obtained by in vitro translation. The synthesized gene products migrated atypically in SDS gels indicating its strong hydrophobicity. Several transmembrane alpha-helices were predicted from the amino acid sequence of ComA which, in the context of an observed sequence similarity with other inner membrane proteins, suggests a location for the protein in the inner membrane. Using piliated and non-piliated comA mutants the consequences of transformation deficiency on pilin phase variation were assessed. We show that the comA defect affects some but not all types of DNA rearrangements associated with pilE variation. The results are in agreement with previous observations supporting the notion that multiple recombination pathways contribute to the variability of pilE.

L12 ANSWER 16 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AN 1989-09959 BIOTECHDS  
TI A solution to the vector homology problem;  
phage T7 vector DNA probe construction for application e.g. in  
*Neisseria gonorrhoeae* diagnosis (conference abstract)  
AU Yang H L; Donegan J J  
CS Enzo-Biochem  
LO Enzo Biochem, New York, NY, USA.  
SO Abstr.Annu.Meet.Am.Soc.Microbiol.; (1989) 89 Meet., 110  
DT Journal  
LA English

AB Since most DNA probes are commonly grown in *Escherichia coli*, and since *E. coli* and plasmid DNAs are readily found in clinical samples, many false positives can arise due to the homology of vector DNA with DNA in the clinical samples. Therefore, the probe DNA has to be separated from the vector. However, even after tedious, repeated cycles of purification, the insert DNA is never completely free from vector sequences. A dot-blot experiment was performed to find a cloning vector which did not have any DNA homology with *E. coli* chromosomal and plasmid DNAs. 2 Commonly employed vectors, plasmid pBR322 and phage M13, as well as the lytic phage T7, were used as probes, with 10 different clinical isolates of *E. coli* as targets. The plasmid pBR322 and phage M13 probes showed extensive homology with the *E. coli* DNA, while the phage T7 probe showed no cross reaction. An insert specific to *Neisseria gonorrhoeae* was cloned in a phage T7 vector and whole **recombinant** DNA was used as a DNA probe. In a dot-blot hybridization assay, the probe retained specificity for *N. gonorrhoeae* while showing no homology with DNA of *E. coli* or any other **commensal** organisms. (0 ref)

L12 ANSWER 17 OF 17 LIFESCI COPYRIGHT 2003 CSA

AN 89:76072 LIFESCI

TI Conserved lipoproteins of pathogenic *Neisseria* species bearing the H.8 epitope: Lipid-modified azurin and H.8 outer membrane protein. CLIN. MICROBIOL. REV.

AU Cannon, J.G.; Morse, S.A. [editor]; Knapp, J.S. [editor]; Broome, C.V. [editor]; Shafer, W.M. [editor]; Cannon, J. [editor]; Sparling, P.F. [editor]; Cohen, M. [editor]; Stephens, D. [editor]

CS Dep. Microbiol. and Immunol., Univ. North Carolina Sch. Med., Chapel Hill, NC 27599, USA

SO (1989) vol. 2, no. suppl., pp. S1-S4.

Meeting Info.: 6. International Pathogenic *Neisseriae* Conference. Pine Mountain, GA (USA). 16-21 Oct. 1988.

DT Book

TC Conference; General Review

FS J

LA English

AB The conserved antigens that have been identified have been the subject of considerable study in an effort to determine whether they play a direct role in *neisserial* pathogenesis and whether they might be targets of a protective immune response. The existence of a protein epitope that is conserved among pathogenic *Neisseria* species was revealed by the binding of a monoclonal antibody (MAb) designated H.8 (8), as well as other MAbs with similar specificities. These MAbs bind to all gonococci and meningococci that have been tested and to *N. lactamica* and *N. cinerea* strains, but not to strains of other **commensal Neisseria** species. There has been much recent progress in identifying and characterizing the proteins that are recognized by H.8-specific MAbs, particularly through the use of **recombinant** deoxyribonucleic acid (DNA) approaches. The existence of multiple proteins that bind H.8-specific MAbs was revealed by screening libraries of gonococcal and meningococcal genes.

CS Department of Biology, University of Ottawa, Ontario, Canada.  
SO MICROBIOLOGY, (1995 May) 141 ( Pt 5) 1183-91.  
Journal code: 9430468. ISSN: 1350-0872.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

OS GENBANK-U11295

EM 199507

ED Entered STN: 19950720

Last Updated on STN: 19980206

Entered Medline: 19950710

AB The carbamoyl-phosphate synthase (CPS) enzyme in prokaryotes is a heterodimer, encoded by genes commonly called *carA* and *carB*. In most prokaryotes examined, these genes are separated by up to 24 bp and are cotranscribed. In *Pseudomonas aeruginosa*, *carA* and *carB* are also co-transcribed, but are separated by 682 bp. We have determined the complete DNA sequence of the *carA* and *carB* genes of ***Neisseria gonorrhoeae*** strain CH811. *carA* (1125 bp) and *carB* (3237 bp) are similar in size and sequence to other prokaryotic CPS genes, however they are separated by an intervening sequence of 3290 bp which has no similarity to the intervening sequence between other CPS genes; furthermore, putative transcription terminators are found downstream of both *carA* and *carB*. Several neisserial repetitive sequences were identified within the 9 kb sequenced, as well as novel 120 and 150 bp repeats (designated RS6 and RS7, respectively) which were found within the intervening sequence between *carA* and *carB*. To determine whether the intervening sequence observed in *N. gonorrhoeae* CH811 was not unusual, the sequence between *carA* and *carB* was amplified by PCR from 30 isolates of *N. gonorrhoeae*. The intervening sequence was found to vary in size, from approximately 2.2 to 3.7 kb, although the *carA* and *carB* genes themselves did not vary in size in isolates with functional CPS enzyme. A similar large, variably sized intervening sequence was also found between the *carA* and *carB* genes of 12 isolates of *N. meningitidis* and 18 **commensal *Neisseria*** isolates comprising nine species. This unexpected organization of the CPS genes in *N. gonorrhoeae* is therefore widespread throughout the genus ***Neisseria***.

L12 ANSWER 14 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
4

AN 1995:125481 BIOSIS

DN PREV199598139781

TI Construction of **recombinant** neisserial Hsp60 proteins and mapping of antigenic domains.

AU Pannekoek, Yvonne; Dankert, Jacob; Van Putten, Jos P. M. (1)

CS (1) Max-Planck-Inst. Biol., Abt. Infektionsbiol., Spemannstrasse 34, D-72076 Tuebingen Germany

SO Molecular Microbiology, (1995) Vol. 15, No. 2, pp. 277-285.  
ISSN: 0950-382X.

DT Article

LA English

AB Here we report the cloning and expression, in *Escherichia coli*, of PCR-amplified DNA encoding the 63-kDa stress-inducible protein of ***Neisseria gonorrhoeae*** strains VP1 and PID2, ***Neisseria meningitidis*** 2996 and the **commensal *Neisseria flavescens***. DNA sequence analysis revealed in all cases one open reading frame of 541-544 amino acids corresponding to a protein of approximately 57 000 Da. The various neisserial proteins were gt 96% identical at the amino acid level and showed extensive homology with proteins belonging to the Hsp60 heat-shock-protein family. We constructed defined glutathione S-transferase fusion polypeptides of the gonococcal Hsp60 homologue to locate antigenic domains on the **recombinant** protein. Variation in the immunoreactivity of two monoclonal antibodies recognizing a

SO Molecular Cell, (April, 1999) Vol. 3, No. 4, pp. 435-445.  
ISSN: 1097-2765.

DT Article

LA English

SL English

AB Expression of serogroup B meningococcal capsular polysaccharide undergoes frequent phase variation involving reversible frameshift mutations within a homopolymeric repeat in the *siaD* gene. A high rate of phase variation is the consequence of a biochemical defect in methyl-directed mismatch repair. The mutator phenotype is associated to the absence of DNA adenine methyltransferase (Dam) activity in all pathogenic isolates and in 50% of **commensal** strains. Analysis of the meningococcal *dam* gene region revealed that in all Dam- strains a gene encoding a putative restriction endonuclease (*drg*) that cleaves only the methylated DNA sequence 5'-GmeATC-3' replaced the *dam* gene. Insertional inactivation of the *dam* and/or *drg* genes indicated that high rates of phase variation and hypermutator phenotype are caused by absence of a functional *dam* gene.

L12 ANSWER 12 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
3

AN 1997:131547 BIOSIS

DN PREV199799423360

TI Interspecies recombination, and phylogenetic distortions, within the glutamine synthetase and shikimate dehydrogenase genes of **Neisseria meningitidis** and **commensal Neisseria** species.

AU Zhou, Jiaji; Bowler, Lucas D.; Spratt, Brian G. (1)

CS (1) Sch. Biological Sci., Univ. Sussex, Falmer, Brighton BN1 9QG UK

SO Molecular Microbiology, (1997) Vol. 23, No. 4, pp. 799-812.  
ISSN: 0950-382X.

DT Article

LA English

AB Visual inspection showed clear evidence of a history of intraspecies recombinational exchanges within the neighbouring meningococcal shikimate dehydrogenase (*aroE*) and glutamine synthetase (*glnA*) genes, which was supported by the non-congruence of the trees constructed from the sequences of these genes from different meningococcal strains, and by statistical tests for mosaic structure. Many examples were also found of highly localized interspecies recombinational exchanges between the meningococcal *aroE* and *glnA* genes and those of **commensal Neisseria** species. These exchanges appear to have inflated the sequence variation at these loci, and have resulted in major distortions of the phylogenetic trees constructed from the sequences of the *aroE* and *glnA* genes of human pathogenic and **commensal Neisseria** species. Statistical tests for sequence mosaicism, and for anomalies within the **Neisseria** species trees, strongly supported the view that frequent interspecies recombination has occurred within *aroE* and *glnA*. The high levels of sequence variation, and intra- and interspecies recombination, within *aroE* and *glnA* did not appear to be due to a 'hitch-hiking' effect caused by positive selection for variation at a neighbouring gene. Our results suggest that interspecies recombinational exchanges with **commensal Neisseria** occur frequently in some meningococcal 'housekeeping' genes as they can be observed readily even when there appears to be no obvious selection for the **recombinant** phenotypes.

L12 ANSWER 13 OF 17 MEDLINE

AN 95291461 MEDLINE

DN 95291461 PubMed ID: 7773412

TI Organization of carbamoyl-phosphate synthase genes in **Neisseria gonorrhoeae** includes a large, variable intergenic sequence which is also present in other **Neisseria** species.

AU Lawson F S; Billowes F M; Dillon J A

frequent modulation in the levels of antibody reactivity. A concurrent modulation was also observed in the binding of C-reactive protein, CRP, a ChoP-binding reactant that is implicated in bacterial clearance. Genetic analysis showed the presence of a gene in several Cn spp. with significant sequence identity to H. influenzae licA. This gene encodes choline kinase and is also involved in phase variation of the LPS-associated ChoP in H. influenzae. In contrast, licA-like genes were not identified in the pathogenic *Neisseria* strains tested. They are absent from N. meningitidis strain Z2491 genome database. These data suggest that the genetic basis for ChoP incorporation in Cn LPS resembles that in H. influenzae spp. and may be distinct from that generating the ChoP epitope on pili of pathogenic *Neisseriae*. Further, the modulation of ChoP expression on Cn LPS, and corresponding modulation of CRP binding, has the potential to confer the property of immune avoidance and thus of persistence on **mucosa**.

L7 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
8  
AN 2001:114579 BIOSIS  
DN PREV200100114579  
TI Frequent interspecific genetic exchange between **commensal** *neisseriae* and *Neisseria meningitidis*.  
AU Linz, Bodo; Schenker, Martin; Zhu, Peixuan; Achtman, Mark (1)  
CS (1) Max-Planck-Institut fuer Molekulare Genetik, Ihnestrasse 73, 14195, Berlin: achtman@molgen.mpg.de Germany  
SO Molecular Microbiology, (June, 2000) Vol. 36, No. 5, pp. 1049-1058. print. ISSN: 0950-382X.  
DT Article  
LA English  
SL English  
AB Natural sequence variation was investigated among serogroup A subgroup IV-1 *Neisseria meningitidis* isolated from diseased patients and healthy carriers in The Gambia, West Africa. The frequencies of DNA import were analysed by sequencing fragments of four linked genes encoding the immunogenic outer membrane proteins TbpB (transferrin binding protein B) and OpaA (an adhesin) plus two housekeeping enzymes. Seventeen foreign *tbpB* alleles were independently imported into the 98 strains tested, apparently due to immune selection. The median size of the imported DNA fragments was 5 kb, resulting in the occasional concurrent import of linked housekeeping genes by hitchhiking. Sequences of *tbpB* from other strains of N. meningitidis as well as **commensal** *Neisseria lactamica* and *Neisseria* spp. isolated from the same geographical area revealed that these species share a common *tbpB* gene pool and identified several examples of interspecific genetic exchange. These observations indicate that recombination can be more frequent between related species than within a species and indicate that effective **vaccination** against serogroup B meningococcal disease may be difficult to achieve.

L7 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
9  
AN 2000:115565 BIOSIS  
DN PREV200000115565  
TI Antigenic cross-reactivity between outer membrane proteins of *Neisseria meningitidis* and **commensal** *Neisseria* species.  
AU Troncoso, G.; Sanchez, S.; Moreda, M.; Criado, M. T.; Ferreiros, C. M. (1)  
CS (1) Departamento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, Santiago de Compostela Spain  
SO FEMS Immunology and Medical Microbiology, (Feb., 2000) Vol. 27, No. 2, pp. 103-109. ISSN: 0928-8244.  
DT Article

capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact *Neisseria* undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of recombinant proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new vaccine candidates.

L7 ANSWER 8 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
6  
AN 2001:528766 BIOSIS  
DN PREV200100528766  
TI Acid stress upregulated outer membrane proteins in clinical isolates of *Neisseria gonorrhoeae*, but not most commensal *Neisseria*.  
AU Pettit, R. K. (1); Whelan, T. M.; Woo, K. S.  
CS (1) Department of Microbiology, Cancer Research Institute, Arizona State University, Tempe, AZ, 85287-2404: pettitr@asu.edu USA  
SO Canadian Journal of Microbiology, (September, 2001) Vol. 47, No. 9, pp. 871-876. print.  
ISSN: 0008-4166.  
DT Article  
LA English  
SL English; French  
AB Human immune serum recognition of outer membrane components from commensal and pathogenic *Neisseria* cultured under neutral and acidic conditions was investigated. Acid stress caused no detectable alterations in lipooligosaccharide migration and (or) staining, in outer membrane protein profiles, or in immune serum recognition of outer membrane components from *Neisseria mucosa* or *Neisseria sicca*. There was also no difference in the lipooligosaccharide electrophoretic pattern of acid- and neutral-grown *Neisseria lactamica*, but there were differences in outer membrane protein expression. The outer membrane protein alterations induced by acid stress in *N. lactamica* were not the same as those seen in isolates from patients with uncomplicated gonococcal infection, pelvic inflammatory disease, and disseminated gonococcal infection. Many differences were detected in the immune serum recognition of outer membrane components from acid- and neutral-cultured *N. lactamica* and from the clinical isolates of *Neisseria gonorrhoeae*, and these should be considered in vaccine design.

L7 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS  
AN 2000:608607 CAPLUS  
DN 133:213155  
TI Neisserial vaccine compositions and methods  
IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith  
PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board  
SO PCT Int. Appl., 35 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----



EP 1154791	A2	20011121	EP 2000-905182	20000222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002537352	T2	20021105	JP 2000-600684	20000222
US 2003026809	A1	20030206	US 2001-942583	20010831
US 2003021812	A1	20030130	US 2002-185769	20020701
PRAI GB 1999-4028	A	19990222		
GB 1999-22561	A	19990923		
WO 2000-GB624	W	20000222		
US 2001-914041	A1	20010822		

AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal **Neisseria** or an ext. of a commensal **Neisseria**. Further methods and compns. comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compns. are used in **vaccine** preps. for the treatment of microbial infection.

=> s l2 and commensal  
L4 54 L2 AND COMMENSAL

=> s l4 and recombinant  
L5 3 L4 AND RECOMBINANT

=> d bib1-3  
'BIB1-3' IS NOT A VALID FORMAT  
In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.  
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):bib 1-3  
'1-3' IS NOT A VALID FORMAT  
In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.  
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):bib

L5 ANSWER 1 OF 3 MEDLINE  
AN 2003030510 MEDLINE  
DN 22425434 PubMed ID: 12538166  
TI Gene expression profile in **Neisseria meningitidis** and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development.  
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G  
CS Chiron SpA, Siena, Italy.  
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.  
Journal code: 7506858. ISSN: 0077-8923.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200303  
ED Entered STN: 20030123  
Last Updated on STN: 20030305  
Entered Medline: 20030304

=> d bib ab 1-3

=> s neisseria and commensal  
L1 682 NEISSERIA AND COMMENSAL

=> s l1 and heterologous (5a) express?  
L2 12 L1 AND HETEROLOGOUS (5A) EXPRESS?

=> dup rem l2  
PROCESSING COMPLETED FOR L2  
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

=> d bib ab 1-12

9/942583

L3 ANSWER 1 OF 12 USPATFULL  
AN 2003:51135 USPATFULL  
TI Directed evolution of enzymes and antibodies  
IN Iverson, Brent, Austin, TX, UNITED STATES  
Georgiou, George, Austin, TX, UNITED STATES  
Chen, Gang, Austin, TX, UNITED STATES  
Olsen, Mark J., Austin, TX, UNITED STATES  
Daugherty, Patrick S., Austin, TX, UNITED STATES  
PA Board of Regents, The University of Texas System (U.S. corporation)  
PI US 2003036092 A1 20030220  
AI US 2001-782672 A1 20010212 (9)  
RLI Continuation of Ser. No. US 1997-847063, filed on 1 May 1997, ABANDONED  
Continuation-in-part of Ser. No. US 1995-447402, filed on 23 May 1995,  
GRANTED, Pat. No. US 5866344 Continuation-in-part of Ser. No. US  
1994-258543, filed on 10 Jun 1994, ABANDONED Division of Ser. No. US  
1991-794731, filed on 15 Nov 1991, GRANTED, Pat. No. US 5348867  
DT Utility  
FS APPLICATION  
LREP Steven L. Highlander, Esq., FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600  
Congress Avenue, Austin, TX, 78701  
CLMN Number of Claims: 45  
ECL Exemplary Claim: 1  
DRWN 13 Drawing Page(s)  
LN.CNT 3955  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The invention relates to methods of selecting proteins, out of large  
libraries, having desirable characteristics. Exemplified are methods of  
expressing enzymes and antibodies on the surface of host cells and  
selecting for desired activities. These methods have the advantage of  
speed and ease of operation when compared with current methods. They  
also provide, without additional cloning, a source of significant  
quantities of the protein of interest.

L3 ANSWER 2 OF 12 USPATFULL  
AN 2003:37165 USPATFULL  
TI Neisserial vaccine compositions and methods  
IN Robinson, Andrew, Salisbury, UNITED KINGDOM  
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM  
Hudson, Michael John, Salisbury, UNITED KINGDOM  
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM  
Kroll, John Simon, Oxford, UNITED KINGDOM  
Langford, Paul Richard, Oxford, UNITED KINGDOM  
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA  
Cartwright, Keith, Brobury, UNITED KINGDOM  
O'Dwyer, Cliona Anne, Furbo, IRELAND  
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM  
PI US 2003026809 A1 20030206  
AI US 2001-942583 A1 20010831 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000,  
UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923

DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 21  
ECL Exemplary Claim: 1  
DRWN 16 Drawing Page(s)  
LN.CNT 1548

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and  
in particular meningococcal disease, comprise a **commensal**  
**Neisseria** or an extract of a **commensal**  
**Neisseria**. Further methods and compositions comprise  
**commensal Neisseria** which express genes from virulent  
strains of **Neisseria** and/or heterologous gene products from  
non-neisserial sources. Such compositions are used in vaccine  
preparations for the treatment of microbial infection.

L3 ANSWER 3 OF 12 USPATFULL

AN 2003:29870 USPATFULL

TI Neisserial vaccine compositions and methods.

IN Robinson, Andrew, Salisbury, UNITED KINGDOM  
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM  
Hudson, Michael John, Salisbury, UNITED KINGDOM  
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM  
Kroll, John Simon, Oxford, UNITED KINGDOM  
Langford, Paul Richard, Oxford, UNITED KINGDOM  
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA  
Cartwright, Keith, Brobury, UNITED KINGDOM  
O'Dwyer, Cliona Anne, Furbo, IRELAND

PA Microbiological Research Authority (non-U.S. corporation)

PI US 2003021812 A1 20030130

AI US 2002-185769 A1 20020701 (10)

RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser.  
No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN

PRAI GB 1999-4028 19990222

GB 1999-22561 19990923

DT Utility

FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934

CLMN Number of Claims: 38

ECL Exemplary Claim: 1

DRWN 5 Drawing Page(s)

LN.CNT 803

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and  
in particular meningococcal disease, comprise a **commensal**  
**Neisseria** or an extract of a **commensal**  
**Neisseria**. Further methods and compositions comprise  
**commensal Neisseria** which express genes from virulent  
strains of **Neisseria** and/or heterologous gene products from  
non-Neisserial sources. Such compositions are used in vaccine  
preparations for the treatment of microbial infection.

L3 ANSWER 4 OF 12 USPATFULL

AN 2002:205882 USPATFULL

TI Vaccines for broad spectrum protection against diseases caused by  
**neisseria meningitidis**

IN Granoff, Dan M., Berkeley, CA, UNITED STATES

Moe, Gregory R., Alameda, CA, UNITED STATES

PI US 2002110569 A1 20020815

AI US 2001-917222 A1 20010727 (9)

PRAI US 2000-221495P 20000727 (60)

DT Utility  
 FS APPLICATION  
 LREP Carol L. Francis, Bozicevic, Field and Francis LLP, Suite 200, 200  
 Middlefield Road, Menlo Park, CA, 94025  
 CLMN Number of Claims: 39  
 ECL Exemplary Claim: 1  
 DRWN 23 Drawing Page(s)  
 LN.CNT 2727  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB The present invention generally provides methods and vaccines for the  
 prevention of diseases caused by **Neisseria meningitidis**  
 bacteria, particularly serogroup B strains.

L3 ANSWER 5 OF 12 USPATFULL  
 AN 2002:164414 USPATFULL  
 TI Omp85 proteins of **neisseria gonorrhoeae** and **neisseria**  
 meningitidis, compositions containing same and methods of use thereof  
 IN Judd, Ralph C., Florence, MT, UNITED STATES  
 Manning, D. Scott, Missoula, MT, UNITED STATES  
 PI US 2002086028 A1 20020704  
 AI US 2001-994192 A1 20011126 (9)  
 RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING  
 DT Utility  
 FS APPLICATION  
 LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321  
 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477  
 CLMN Number of Claims: 25  
 ECL Exemplary Claim: 1  
 DRWN 10 Drawing Page(s)  
 LN.CNT 2013  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB Nucleic acid and amino acid sequences of the Omp85 proteins of N.  
 gonorrhoeae and N. meningitidis, and fragments thereof are useful in  
 vaccine compositions, therapeutic compositions and diagnostic  
 compositions for use in the prevention, treatment and diagnosis of  
 non-symptomatic gonococcal infection or symptomatic disease and  
 non-symptomatic meningococcal infection and symptomatic disease.  
 Antibodies are developed to these proteins and also useful in the  
 compositions and methods described herein.

L3 ANSWER 6 OF 12 USPATFULL  
 AN 2002:164407 USPATFULL  
 TI Method for improving the half-life of soluble viral receptors on mucosal  
 membranes  
 IN Lee, Peter P., Menlo Park, CA, UNITED STATES  
 PA OSEL, INC., Mountain View, CA, UNITED STATES (U.S. corporation)  
 PI US 2002086020 A1 20020704  
 AI US 2002-43689 A1 20020110 (10)  
 RLI Division of Ser. No. US 2000-549261, filed on 14 Apr 2000, PATENTED  
 PRAI US 1999-129722P 19990416 (60)  
 DT Utility  
 FS APPLICATION  
 LREP TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH  
 FLOOR, SAN FRANCISCO, CA, 94111-3834  
 CLMN Number of Claims: 41  
 ECL Exemplary Claim: 1  
 DRWN 1 Drawing Page(s)  
 LN.CNT 1442  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB This invention relates to methods of increasing the half-life of a  
 viral-specific ligand on a mucosal membrane by modifying the  
 viral-specific ligand to bind the bacteria colonized on the mucosal  
 membrane. The invention also provides a chimeric molecule comprising a  
 viral-specific ligand and a bacterial-specific ligand.

L3 ANSWER 7 OF 12 USPATFULL  
 AN 2002:144099 USPATFULL  
 TI Plants and plant cells expressing histidine tagged intimin  
 IN Stewart, Jr., C. Neal, Greensboro, NC, United States  
 McKee, Marian L., Great Falls, VA, United States  
 O'Brien, Alison D., Bethesda, MD, United States  
 Wachtel, Marian R., Gaithersburg, MD, United States  
 PA Henry M. Jackson Foundation for the Advancement of Military Medicine,  
 Rockville, MD, United States (U.S. corporation)  
 PI US 6406885 B1 20020618  
 AI US 2000-696188 20001026 (9)  
 RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented,  
 Pat. No. US 6261561  
 PRAI US 1996-15938P 19960422 (60)  
 US 1996-15657P 19960419 (60)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny  
 Allen  
 LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
 CLMN Number of Claims: 13  
 ECL Exemplary Claim: 1  
 DRWN 23 Drawing Figure(s); 23 Drawing Page(s)  
 LN.CNT 2819

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention satisfies needs in the art by providing intimin, the  
 Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as  
 a fusion protein with one or more other antigens, expressed by  
 transgenic plants and the use of those plants as vehicles for  
 stimulating a protective immune response against EHEC and the one or  
 more other antigens. Various plant species are transformed to protect  
 various animal species and also humans against EHEC, against pathogens  
 expressing intimin-like proteins, and against pathogens expressing any  
 of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a  
 recombination that encodes a fusion protein is put under the control of  
 a constitutive plant promoter in a plasmid and the plasmid is introduced  
 into plants by the type of transformation appropriate for the particular  
 plant species. The engineered plants expressing intimin or the intimin  
 fusion protein are then fed to animals and/or humans to elicit the  
 production of antibodies, which protect the animals/humans against EHEC  
 colonization and infection, and against pathogens expressing the one or  
 more other antigens and any cross-reactive antigens. The invention may  
 also be practiced by expressing the intimin or intimin fusion protein in  
 other host organisms such as bacteria, yeast, and fungi.

L3 ANSWER 8 OF 12 USPATFULL  
 AN 2002:69603 USPATFULL  
 TI Method for improving the half-life of soluble viral-specific ligands on  
 mucosal membranes  
 IN Lee, Peter P., Palo Alto, CA, United States  
 PA Osel, Inc., Santa Clara, CA, United States (U.S. corporation)  
 PI US 6365156 B1 20020402  
 AI US 2000-549261 20000414 (9)  
 PRAI US 1999-129722P 19990416 (60)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Housel, James; Assistant Examiner: Foley, Shanon A.  
 LREP Townsend and Townsend and Crew LLP  
 CLMN Number of Claims: 19  
 ECL Exemplary Claim: 1  
 DRWN 2 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 1368

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to methods of increasing the half-life of a viral-specific ligand on a mucosal membrane by modifying the viral-specific ligand to bind the bacteria colonized on the mucosal membrane. The invention also provides a chimeric molecule comprising a viral-specific ligand and a bacterial-specific ligand.

L3 ANSWER 9 OF 12 USPATFULL

AN 2001:59389 USPATFULL

TI NucA protein of Haemophilus influenzae

IN Jones, Kevin F., New York, NY, United States

PA American Cyanamid Company, Madison, NJ, United States (U.S. corporation)

PI US 6221365 B1 20010424

WO 9804103 19980205

AI US 1998-43711 19980320 (9)

WO 1997-US12790 19970723

19980320 PCT 371 date

19980320 PCT 102(e) date

RLI Continuation of Ser. No. US 1996-687865, filed on 26 Jul 1996, now patented, Pat. No. US 5955596

PRAI US 1996-22619P 19960726 (60)

DT Utility

FS Granted

EXNAM Primary Examiner: Graser, Jennifer

LREP Gordon, Alan M.

CLMN Number of Claims: 4

ECL Exemplary Claim: 1

DRWN 17 Drawing Figure(s); 15 Drawing Page(s)

LN.CNT 2137

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A protein from H. influenzae designated NucA is isolated and purified. The NucA protein has the amino acid sequence of amino acids 26-603 of SEQ ID NO.2 or a biologically equivalent amino acid sequence thereof. Amino acids 1-25 of SEQ ID NO.2 are the signal peptide, which is cleaved during processing of the mature protein. The NucA protein has a molecular weight of approximately 63,000 Daltons as measured on a 12% SDS-PAGE gel and possesses 5'-nucleotidase activity. The NucA protein is obtained by isolation and purification from the H. influenzae organism, by chemical synthesis or by recombinant expression by an isolated and purified nucA DNA sequence which encodes the NucA protein. Such a DNA sequence hybridizes under standard high stringency Southern hybridization conditions with a DNA sequence encoding the NucA protein of H. influenzae having the amino acid sequence of amino acids 26-603 of SEQ ID NO.2 or a biologically equivalent amino acid sequence thereof. The NucA protein is used to prepare a vaccine composition which elicits a protective immune response in a mammalian host to protect the host against disease caused by H. influenzae.

L3 ANSWER 10 OF 12 WPIDS (C) 2003 THOMSON DERWENT

AN 2000-549378 [50] WPIDS

DNC C2000-164066

TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial vaccine.

DC B04 D16

IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M

PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J; (KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)\* EN 35p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
LT LU LV MA MD MG MK MN MX NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000026811 A 20000914 (200063)

EP 1154791 A2 20011121 (200176) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
RO SE SI

JP 2002537352 W 20021105 (200304) 39p

US 2003021812 A1 20030130 (200311)

US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811  
20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222;  
JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US  
2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041  
20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624  
20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO  
200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel vaccine composition (I) comprises a **commensal**  
**Neisseria** or an immunogenic component, extract or derivative  
thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

(1) a composition for eliciting an immune response and suitable for  
use in vaccinating an individual against neisserial infection, comprising  
an antigenic component having the properties:

(a) molecular weight 40-90 kDa, or 70 kDa;

(b) obtainable from a **commensal Neisseria**; and

(c) antibodies against the component cross-react with *N.*  
meningitidis;

(2) a method of vaccination against microbial or neisserial  
infection, comprising using the compositions of the invention;

(3) a **commensal Neisseria** which expresses a gene  
from a pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a  
composition suitable for vaccinating against meningococcal disease,  
comprising suspending **commensal Neisseria** cells in the  
presence of detergent; and incubating the suspension so as to extract a  
protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression** vector;

(b) transforming the expression vector into a **commensal**  
**Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically  
acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression** vector;

(b) transforming the expression vector into a **commensal**  
**Neisseria**;

(c) obtaining an immunogenic component or extract from the  
**Neisseria** of (b); and

(d) combining this immunogenic component or extract with a  
pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a  
**commensal Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a

heterologous gene product and a pharmaceutically acceptable carrier.

USE - The vaccines are used to protect against microbial infection, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. The **commensal Neisseria** can be used in the manufacture of a medicament for the treatment of a neisserial infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria meningitidis** strain K454 by use of *N. lactamica* whole cells and outer membrane fractions.

Dwg.1/5

L3 ANSWER 11 OF 12 USPATFULL  
AN 1999:113881 USPATFULL  
TI NucA protein of Haemophilus influenzae and the gene encoding that protein  
IN Zagursky, Robert J., Victor, NY, United States  
Ooi, Peggy, Mendon, NY, United States  
PA American Cyanamid Company, Madison, NJ, United States (U.S. corporation)  
PI US 5955596 19990921  
AI US 1996-687865 19960726 (8)  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Housel, James C.; Assistant Examiner: Shaver, Jennifer  
LREP Gordon, Alan M.  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1  
DRWN 17 Drawing Figure(s); 15 Drawing Page(s)  
LN.CNT 2580

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A protein from *H. influenzae* designated NucA is isolated and purified. The NucA protein has the amino acid sequence of amino acids 26-603 of SEQ ID NO:2 or a biologically equivalent amino acid sequence thereof. Amino acids 1-25 of SEQ ID NO:2 are the signal peptide, which is cleaved during processing of the mature protein. The NucA protein has a molecular weight of approximately 63,000 Daltons as measured on a 12% SDS-PAGE gel and possesses 5'-nucleotidase activity. The NucA protein is obtained by isolation and purification from the *H. influenzae* organism, by chemical synthesis or by recombinant expression by an isolated and purified nucA DNA sequence which encodes the NucA protein. Such a DNA sequence hybridizes under standard high stringency Southern hybridization conditions with a DNA sequence encoding the NucA protein of *H. influenzae* having the amino acid sequence of amino acids 26-603 of SEQ ID NO:2 or a biologically equivalent amino acid sequence thereof. The NucA protein is used to prepare a vaccine composition which elicits a protective immune response in a mammalian host to protect the host against disease caused by *H. influenzae*.

L3 ANSWER 12 OF 12 USPATFULL  
AN 1998:139022 USPATFULL  
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin  
IN Normark, Staffan, Clayton, MO, United States  
Jonsson, Ann-Beth, Umea, Sweden  
PA Washington University, St. Louis, MO, United States (U.S. corporation)  
PI US 5834591 19981110  
AI US 1995-415788 19950403 (8)  
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned  
DT Utility



FS Granted  
EXNAM Primary Examiner: Sidberry, Hazel F.  
CLMN Number of Claims: 44  
ECL Exemplary Claim: 1  
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)  
LN.CNT 3804

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of vaccines. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	42.40	42.61

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE  
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Apr 25, 2003 (20030425/UP).

=> d shi

YOU HAVE REQUESTED DATA FROM FILE 'WPIDS, USPATFULL' - CONTINUE? (Y)/N:n

=> file biosis medline agricola embase caba wpids japio biotechds lifesci caplus  
uspatall

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.30	42.91

FILE 'BIOSIS' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'MEDLINE' ENTERED AT 13:42:46 ON 28 APR 2003

FILE 'AGRICOLA' ENTERED AT 13:42:46 ON 28 APR 2003

FILE 'EMBASE' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'CABA' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 CAB INTERNATIONAL (CABI)

FILE 'WPIDS' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 THOMSON DERWENT

FILE 'JAPIO' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 Japanese Patent Office (JPO)- JAPIO

FILE 'BIOTECHDS' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 THOMSON DERWENT AND INSTITUTE FOR SCIENTIFIC INFORMATION

FILE 'LIFESCI' ENTERED AT 13:42:46 ON 28 APR 2003  
COPYRIGHT (C) 2003 Cambridge Scientific Abstracts (CSA)

FILE 'CAPLUS' ENTERED AT 13:42:46 ON 28 APR 2003  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 13:42:46 ON 28 APR 2003  
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003  
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,  
LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003  
L1 682 S NEISSERIA AND COMMENSAL  
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?  
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,  
LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

=> s neisseria and vaccin?

L4 8698 NEISSERIA AND VACCIN?

=> s l4 and heterologous (10a) express?

7 FILES SEARCHED:...

L5 401 L4 AND HETEROLOGOUS (10A) EXPRESS?

=> s l5 and (cinerea or lactarhica or elongata or flava or flavescens or  
polysaccharea or sicca or mucosa or perflava or subflava)

L6 156 L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVESCEN  
S OR POLYSACCHAREA OR SICCA OR MUCOSA OR PERFLAVA OR SUBFLAVA)

=> s l5 and lactamia

L7 0 L5 AND LACTAMIA

=> s l5 and lacatamica

L8 0 L5 AND LACATAMICA

=> s l5 and lactamica

L9 10 L5 AND LACTAMICA

=> dup rem l9

PROCESSING COMPLETED FOR L9

L10 9 DUP REM L9 (1 DUPLICATE REMOVED)

=> d bib ab 1-9

L10 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2003 ACS

AN 2003:97443 CAPLUS

DN 138:149364

TI **Neisseria** adhesins and their use in drug screening and in  
**vaccines**

IN Arico, Maria; Comanducci, Maurizio

PA Chiron S.p.A., Italy

SO PCT Int. Appl., 79 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003010194	A2	20030206	WO 2002-IB3396	20020726
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI GB 2001-18401 A 20010727

GB 2001-21591 A 20010906

GB 2002-11025 A 20020514

AB NadA, App and ORF40 function as adhesins in *N. meningitidis*. Adhesion can be modulated by targeting these three proteins. NadA allelic variants are disclosed. Autoproteolytic cleavage of App is disclosed, as is removal of the activity by mutagenesis. App is processed and secreted into culture medium when expressed in *E. coli*. Mature App proteins are disclosed. Knockout mutants are disclosed. Vesicles from non-Neisserial hosts with **heterologous** adhesin **expression** are disclosed. Thus, the nadA gene was found to be overrepresented in 3 hypervirulent *N. meningitidis* lineages. It appeared to be a foreign gene present in this subset of hypervirulent strains. NadA was shown to be exposed as an oligomer on the bacteria surface and appears to be involved in bacterial adhesion. NadA was present in at least 50% of disease-associated *N. meningitidis*, it elicited protective and bactericidal antibodies in lab animals, and each allele induced cross-bactericidal antibodies. NadA therefore appears to be a good **vaccine** antigen.

L10 ANSWER 2 OF 9 USPATFULL

AN 2003:37165 USPATFULL

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew, Salisbury, UNITED KINGDOM

Gorringer, Andrew Richard, Salisbury, UNITED KINGDOM

Hudson, Michael John, Salisbury, UNITED KINGDOM

Bracegirdle, Philippa, Salisbury, UNITED KINGDOM

Kroll, John Simon, Oxford, UNITED KINGDOM

Langford, Paul Richard, Oxford, UNITED KINGDOM

Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA

Cartwright, Keith, Brobury, UNITED KINGDOM

O'Dwyer, Cliona Anne, Furbo, IRELAND

Reddin, Karen Margaret, Salisbury, UNITED KINGDOM

PI US 2003026809 A1 20030206

AI US 2001-942583 A1 20010831 (9)

RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN

PRAI GB 1999-4028 19990222

GB 1999-22561 19990923

DT Utility

FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN 16 Drawing Page(s)

LN.CNT 1548

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and

in particular meningococcal disease, comprise a commensal **Neisseria** or an extract of a commensal **Neisseria**. Further methods and compositions comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L10 ANSWER 3 OF 9 USPATFULL  
AN 2003:29870 USPATFULL  
TI Neisserial **vaccine** compositions and methods  
IN Robinson, Andrew, Salisbury, UNITED KINGDOM  
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM  
Hudson, Michael John, Salisbury, UNITED KINGDOM  
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM  
Kroll, John Simon, Oxford, UNITED KINGDOM  
Langford, Paul Richard, Oxford, UNITED KINGDOM  
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA  
Cartwright, Keith, Brobury, UNITED KINGDOM  
O'Dwyer, Cliona Anne, Furbo, IRELAND  
PA Microbiological Research Authority (non-U.S. corporation)  
PI US 2003021812 A1 20030130  
AI US 2002-185769 A1 20020701 (10)  
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser.  
No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923  
DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 803  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Methods and compositions for the treatment of microbial infection, and  
in particular meningococcal disease, comprise a commensal  
**Neisseria** or an extract of a commensal **Neisseria**.  
Further methods and compositions comprise commensal **Neisseria**  
which **express** genes from virulent strains of **Neisseria**  
and/or **heterologous** gene products from non-Neisserial sources.  
Such compositions are used in **vaccine** preparations for the  
treatment of microbial infection.

L10 ANSWER 4 OF 9 USPATFULL  
AN 2002:205882 USPATFULL  
TI **Vaccines** for broad spectrum protection against diseases caused  
by **neisseria** meningitidis  
IN Granoff, Dan M., Berkeley, CA, UNITED STATES  
Moe, Gregory R., Alameda, CA, UNITED STATES  
PI US 2002110569 A1 20020815  
AI US 2001-917222 A1 20010727 (9)  
PRAI US 2000-221495P 20000727 (60)  
DT Utility  
FS APPLICATION  
LREP Carol L. Francis, Bozicevic, Field and Francis LLP, Suite 200, 200  
Middlefield Road, Menlo Park, CA, 94025  
CLMN Number of Claims: 39  
ECL Exemplary Claim: 1  
DRWN 23 Drawing Page(s)  
LN.CNT 2727  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The present invention generally provides methods and **vaccines**

for the prevention of diseases caused by **Neisseria**  
meningitidis bacteria, particularly serogroup B strains.

L10 ANSWER 5 OF 9 USPATFULL  
AN 2002:164414 USPATFULL  
TI Omp85 proteins of **neisseria gonorrhoeae** and **neisseria**  
meningitidis, compositions containing same and methods of use thereof  
IN Judd, Ralph C., Florence, MT, UNITED STATES  
Manning, D. Scott, Missoula, MT, UNITED STATES  
PI US 2002086028 A1 20020704  
AI US 2001-994192 A1 20011126 (9)  
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING  
DT Utility  
FS APPLICATION  
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321  
NORRISTOWN ROAD, SPRING HOUSE, PA, 19477  
CLMN Number of Claims: 25  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Page(s)  
LN.CNT 2013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid and amino acid sequences of the Omp85 proteins of *N. gonorrhoeae* and *N. meningitidis*, and fragments thereof are useful in **vaccine** compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L10 ANSWER 6 OF 9 USPATFULL  
AN 2002:95578 USPATFULL  
TI Method of transferring at least two saccharide units with a polyglycosyltransferase  
IN Johnson, Karl F., Willow Grove, PA, United States  
Roth, Stephen, Gladwyne, PA, United States  
Buczala, Stephanie L., Jenkintown, PA, United States  
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)  
PI US 6379933 B1 20020430  
AI US 1999-338943 19990624 (9)  
RLI Continuation of Ser. No. US 1995-478140, filed on 7 Jun 1995, now patented, Pat. No. US 6127153  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Prats, Francisco  
LREP Morgan, Lewis & Bockius, LLP  
CLMN Number of Claims: 18  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 1220

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and a gene encoding such a polyglycosyltransferase.

L10 ANSWER 7 OF 9 WPIDS (C) 2003 THOMSON DERWENT DUPLICATE 1  
AN 2000-549378 [50] WPIDS  
DNC C2000-164066  
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using **Neisserial vaccine**.  
DC B04 D16  
IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S;  
LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M

PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES  
AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE  
P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J;  
(KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I)  
REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)\* EN 35p  
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000026811 A 20000914 (200063)

EP 1154791 A2 20011121 (200176) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
RO SE SI

JP 2002537352 W 20021105 (200304) 39p

US 2003021812 A1 20030130 (200311)

US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811  
20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222;  
JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US  
2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041  
20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624  
20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO  
200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel **vaccine** composition (I) comprises a commensal  
**Neisseria** or an immunogenic component, extract or derivative  
thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

(1) a composition for eliciting an immune response and suitable for  
use in **vaccinating** an individual against neisserial infection,  
comprising an antigenic component having the properties:

(a) molecular weight 40-90 kDa, or 70 kDa;

(b) obtainable from a commensal **Neisseria**; and

(c) antibodies against the component cross-react with *N.*  
meningitidis;

(2) a method of **vaccination** against microbial or neisserial  
infection, comprising using the compositions of the invention;

(3) a commensal **Neisseria** which expresses a gene from a  
pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a  
composition suitable for **vaccinating** against meningococcal  
disease, comprising suspending commensal **Neisseria** cells in the  
presence of detergent; and incubating the suspension so as to extract a  
protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression** vector;

(b) transforming the expression vector into a commensal  
**Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically  
acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression** vector;

(b) transforming the expression vector into a commensal  
**Neisseria**;

(c) obtaining an immunogenic component or extract from the

**Neisseria** of (b); and

(d) combining this immunogenic component or extract with a pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a commensal **Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a heterologous gene product and a pharmaceutically acceptable carrier.

USE - The **vaccines** are used to protect against microbial infection, particularly meningococcal disease. **Neisserial** infections which may be protected against also include gonorrheal infection. The commensal **Neisseria** can be used in the manufacture of a medicament for the treatment of a **neisserial** infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria meningitidis** strain K454 by use of **N. lactamica** whole cells and outer membrane fractions.

Dwg.1/5

L10 ANSWER 8 OF 9 USPATFULL

AN 2000:131625 USPATFULL

TI Method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and gene encoding a polyglycosyltransferase

IN Johnson, Karl F., Willow Grove, PA, United States

Roth, Stephen, Gladwyne, PA, United States

Buczala, Stephanie L., Jenkintown, PA, United States

PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)

PI US 6127153 20001003

AI US 1995-478140 19950607 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Prats, Francisco

LREP Pennie & Edmonds LLP

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN 10 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 1270

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and a gene encoding such a polyglycosyltransferase.

L10 ANSWER 9 OF 9 USPATFULL

AN 1998:139022 USPATFULL

TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin

IN Normark, Staffan, Clayton, MO, United States

Jonsson, Ann-Beth, Umea, Sweden

PA Washington University, St. Louis, MO, United States (U.S. corporation)

PI US 5834591 19981110

AI US 1995-415788 19950403 (8)

RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Sidberry, Hazel F.

CLMN Number of Claims: 44

ECL Exemplary Claim: 1

DRWN 18 Drawing Figure(s); 18 Drawing Page(s)

LN.CNT 3804

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of **vaccines**. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003

L1 682 S NEISSERIA AND COMMENSAL  
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?  
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

L4 8698 S NEISSERIA AND VACCIN?  
L5 401 S L4 AND HETEROLOGOUS (10A) EXPRESS?  
L6 156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES  
L7 0 S L5 AND LACTAMIA  
L8 0 S L5 AND LACATAMICA  
L9 10 S L5 AND LACTAMICA  
L10 9 DUP REM L9 (1 DUPLICATE REMOVED)

=> dup rem l6

PROCESSING COMPLETED FOR L6

L11 150 DUP REM L6 (6 DUPLICATES REMOVED)

=> s l11 and expression vector

11 FILES SEARCHED...

L12 136 L11 AND EXPRESSION VECTOR

=> s l12 and commensal

L13 6 L12 AND COMMENSAL

=> d bib ab 1-6

L13 ANSWER 1 OF 6 WPIDS (C) 2003 THOMSON DERWENT

AN 2000-549378 [50] WPIDS

DNC C2000-164066

TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial **vaccine**.

DC B04 D16

IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M

PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J; (KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)\* EN 35p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL



OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000026811 A 20000914 (200063)

EP 1154791 A2 20011121 (200176) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
RO SE SI

JP 2002537352 W 20021105 (200304) 39p

US 2003021812 A1 20030130 (200311)

US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811  
20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222;  
JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US  
2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041  
20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624  
20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO  
200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel **vaccine** composition (I) comprises a  
**commensal Neisseria** or an immunogenic component, extract  
or derivative thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

(1) a composition for eliciting an immune response and suitable for  
use in **vaccinating** an individual against neisserial infection,  
comprising an antigenic component having the properties:

- (a) molecular weight 40-90 kDa, or 70 kDa;
- (b) obtainable from a **commensal Neisseria**; and
- (c) antibodies against the component cross-react with *N.*  
meningitidis;

(2) a method of **vaccination** against microbial or neisserial  
infection, comprising using the compositions of the invention;

(3) a **commensal Neisseria** which expresses a gene  
from a pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a  
composition suitable for **vaccinating** against meningococcal  
disease, comprising suspending **commensal Neisseria**  
cells in the presence of detergent; and incubating the suspension so as to  
extract a protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression vector**;

(b) transforming the **expression vector** into a  
**commensal Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically  
acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product  
into an **expression vector**;

(b) transforming the **expression vector** into a  
**commensal Neisseria**;

(c) obtaining an immunogenic component or extract from the  
**Neisseria** of (b); and

(d) combining this immunogenic component or extract with a  
pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a  
**commensal Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a  
heterologous gene product and a pharmaceutically acceptable carrier.

USE - The **vaccines** are used to protect against microbial infection, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. The **commensal Neisseria** can be used in the manufacture of a medicament for the treatment of a neisserial infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria meningitidis** strain K454 by use of *N. lactamica* whole cells and outer membrane fractions.

Dwg.1/5

L13 ANSWER 2 OF 6 USPATFULL

AN 2003:37165 USPATFULL

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew, Salisbury, UNITED KINGDOM

Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM

Hudson, Michael John, Salisbury, UNITED KINGDOM

Bracegirdle, Philippa, Salisbury, UNITED KINGDOM

Kroll, John Simon, Oxford, UNITED KINGDOM

Langford, Paul Richard, Oxford, UNITED KINGDOM

Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA

Cartwright, Keith, Brobury, UNITED KINGDOM

O'Dwyer, Cliona Anne, Furbo, IRELAND

Reddin, Karen Margaret, Salisbury, UNITED KINGDOM

PI US 2003026809 A1 20030206

AI US 2001-942583 A1 20010831 (9)

RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN

PRAI GB 1999-4028 19990222

GB 1999-22561 19990923

DT Utility

FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN 16 Drawing Page(s)

LN.CNT 1548

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an extract of a **commensal Neisseria**. Further methods and compositions comprise **commensal Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L13 ANSWER 3 OF 6 USPATFULL

AN 2003:29870 USPATFULL

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew, Salisbury, UNITED KINGDOM

Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM

Hudson, Michael John, Salisbury, UNITED KINGDOM

Bracegirdle, Philippa, Salisbury, UNITED KINGDOM

Kroll, John Simon, Oxford, UNITED KINGDOM

Langford, Paul Richard, Oxford, UNITED KINGDOM

Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA

Cartwright, Keith, Brobury, UNITED KINGDOM

O'Dwyer, Cliona Anne, Furbo, IRELAND

PA Microbiological Research Authority (non-U.S. corporation)

PI US 2003021812 A1 20030130  
AI US 2002-185769 A1 20020701 (10)  
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser.  
No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923  
DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 803

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and  
in particular meningococcal disease, comprise a **commensal**  
**Neisseria** or an extract of a **commensal**  
**Neisseria**. Further methods and compositions comprise  
**commensal Neisseria** which **express** genes from  
virulent strains of **Neisseria** and/or **heterologous**  
gene products from non-**Neisseria** sources. Such compositions are used in  
**vaccine** preparations for the treatment of microbial infection.

L13 ANSWER 4 OF 6 USPATFULL

AN 2002:164414 USPATFULL

TI Omp85 proteins of **neisseria gonorrhoeae** and **neisseria**  
meningitidis, compositions containing same and methods of use thereof

IN Judd, Ralph C., Florence, MT, UNITED STATES

Manning, D. Scott, Missoula, MT, UNITED STATES

PI US 2002086028 A1 20020704

AI US 2001-994192 A1 20011126 (9)

RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING

DT Utility

FS APPLICATION

LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321  
NORRISTOWN ROAD, SPRING HOUSE, PA, 19477

CLMN Number of Claims: 25

ECL Exemplary Claim: 1

DRWN 10 Drawing Page(s)

LN.CNT 2013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid and amino acid sequences of the Omp85 proteins of **N.**  
**gonorrhoeae** and **N. meningitidis**, and fragments thereof are useful in  
**vaccine** compositions, therapeutic compositions and diagnostic  
compositions for use in the prevention, treatment and diagnosis of  
non-symptomatic gonococcal infection or symptomatic disease and  
non-symptomatic meningococcal infection and symptomatic disease.  
Antibodies are developed to these proteins and also useful in the  
compositions and methods described herein.

L13 ANSWER 5 OF 6 USPATFULL

AN 2002:144099 USPATFULL

TI Plants and plant cells expressing histidine tagged intimin

IN Stewart, Jr., C. Neal, Greensboro, NC, United States

McKee, Marian L., Great Falls, VA, United States

O'Brien, Alison D., Bethesda, MD, United States

Wachtel, Marian R., Gaithersburg, MD, United States

PA Henry M. Jackson Foundation for the Advancement of Military Medicine,  
Rockville, MD, United States (U.S. corporation)

PI US 6406885 B1 20020618

AI US 2000-696188 20001026 (9)

RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented,  
Pat. No. US 6261561

PRAI US 1996-15938P 19960422 (60)  
US 1996-15657P 19960419 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny  
Allen  
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1  
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)  
LN.CNT 2819

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the production of antibodies, which protect the animals/humans against EHEC colonization and infection; and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L13 ANSWER 6 OF 6 USPATFULL  
AN 1998:139022 USPATFULL  
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin  
IN Normark, Staffan, Clayton, MO, United States  
Jonsson, Ann-Beth, Umea, Sweden  
PA Washington University, St. Louis, MO, United States (U.S. corporation)  
PI US 5834591 19981110  
AI US 1995-415788 19950403 (8)  
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Sidberry, Hazel F.  
CLMN Number of Claims: 44  
ECL Exemplary Claim: 1  
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)  
LN.CNT 3804

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of **vaccines**. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003

L1 682 S NEISSERIA AND COMMENSAL  
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?  
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

L4 8698 S NEISSERIA AND VACCIN?  
L5 401 S L4 AND HETEROLOGOUS (10A) EXPRESS?  
L6 156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES  
L7 0 S L5 AND LACTAMIA  
L8 0 S L5 AND LACATAMICA  
L9 10 S L5 AND LACTAMICA  
L10 9 DUP REM L9 (1 DUPLICATE REMOVED)  
L11 150 DUP REM L6 (6 DUPLICATES REMOVED)  
L12 136 S L11 AND EXPRESSION VECTOR  
L13 6 S L12 AND COMMENSAL

=> s l11 and vaccine vector

L14 6 L11 AND VACCINE VECTOR

=> d bib ab 1-6

L14 ANSWER 1 OF 6 USPATFULL  
AN 2003:65375 USPATFULL  
TI Dendritic cells transduced with a wild-type self gene elicit potent antitumor immune responses  
IN Gabrilovich, Dmitry, Aurora, IL, UNITED STATES  
Carbone, David, Franklin, TN, UNITED STATES  
Chada, Sunil, Missouri City, TX, UNITED STATES  
Mhashilkar, Abner, Houston, TX, UNITED STATES  
PA Vanderbilt University and Introgen Therapeutics, Inc. (U.S. corporation)  
PI US 2003045499 A1 20030306  
AI US 2002-216346 A1 20020809 (10)  
RLI Division of Ser. No. US 2000-526320, filed on 15 Mar 2000, PENDING  
PRAI US 1999-124482P 19990315 (60)  
US 1999-124388P 19990315 (60)  
DT Utility  
FS APPLICATION  
LREP Robert E. Hanson, FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600 Congress Avenue, Austin, TX, 78701  
CLMN Number of Claims: 60  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 3256  
AB The present invention relates to immunotherapy methods for treating hyperproliferative disease or pathogen-induced diseases in humans. More specifically, the invention is directed, in one embodiment, to methods for treating a subject with a hyperproliferative disease in which the expression of a self gene is upregulated in hyperproliferative cells. In another embodiment, an adenoviral expression construct comprising a self gene under the control of a promoter operable in eukaryotic cells is intradermally administered to said hyperproliferative cells. In another embodiment of the present invention, a pathogen-induced disease in which the pathogen gene expression is increased or altered, is treated by intradermally administered a pathogen gene under the control of a

promoter operable in eukaryotic cells. The present invention thus provides immunotherapies for treating hyperproliferative and pathogen diseases by attenuating the natural immune systems CTL response against hyperproliferative cells or overexpressing mutant p53 antigens.

L14 ANSWER 2 OF 6 USPATFULL

AN 2002:344432 USPATFULL

TI ANTIGEN LIBRARY IMMUNIZATION

IN PUNNONEN, JUHA, PALO ALTO, CA, UNITED STATES  
BASS, STEVEN H., HILLSBOROUGH, CA, UNITED STATES  
WHALEN, ROBERT GERALD, PARIS, FRANCE

HOWARD, RUSSELL, LOS ALTOS HILLS, CA, UNITED STATES

STEMMER, WILLEM P. C., LOS GATOS, CA, UNITED STATES

PI US 2002198162 A1 20021226

US 6541011 B2 20030401

AI US 1999-247890 A1 19990210 (9)

PRAI US 1998-74294P 19980211 (60)

US 1998-105509P 19981023 (60)

DT Utility

FS APPLICATION

LREP MAXYGEN, INC., 515 GALVESTON DRIVE, RED WOOD CITY, CA, 94063

CLMN Number of Claims: 53

ECL Exemplary Claim: 1

DRWN 21 Drawing Page(s)

LN.CNT 5366

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention is directed to antigen library immunization, which provides methods for obtaining antigens having improved properties for therapeutic and other uses. The methods are useful for obtaining improved antigens that can induce an immune response against pathogens, cancer, and other conditions, as well as antigens that are effective in modulating allergy, inflammatory and autoimmune diseases.

L14 ANSWER 3 OF 6 USPATFULL

AN 2002:288320 USPATFULL

TI Helicobacter pylori live **vaccine**

IN Meyer, Thomas F., Berlin, GERMANY, FEDERAL REPUBLIC OF  
Haas, Rainer, Munchen, GERMANY, FEDERAL REPUBLIC OF  
Zhengxin, Yan, Tubingen, GERMANY, FEDERAL REPUBLIC OF  
Gomez-Duarte, Oscar, Tubingen, GERMANY, FEDERAL REPUBLIC OF  
Lucas, Bernadette, Berlin, GERMANY, FEDERAL REPUBLIC OF  
Maurer, Jochen, Stadtbergen, GERMANY, FEDERAL REPUBLIC OF  
Gibbs, Carol Patrice, Augsburg, GERMANY, FEDERAL REPUBLIC OF  
Lattemann, Claus Tobias, Neusaess, GERMANY, FEDERAL REPUBLIC OF

PI US 2002161192 A1 20021031

AI US 2001-976297 A1 20011015 (9)

RLI Continuation-in-part of Ser. No. US 1999-284233, filed on 28 Jul 1999,  
PENDING A 371 of International Ser. No. WO 1997-EP4744, filed on 1 Sep  
1997, UNKNOWN

PRAI EP 1996-116337 19961011

DT Utility

FS APPLICATION

LREP ARENT FOX KINTNER PLOTKIN & KAHN, 1050 CONNECTICUT AVENUE, N.W., SUITE  
400, WASHINGTON, DC, 20036

CLMN Number of Claims: 16

ECL Exemplary Claim: 1

DRWN 16 Drawing Page(s)

LN.CNT 1920

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel recombinant live **vaccines**, which provide protective immunity against an infection by Helicobacter pylori and a method of screening H. pylori antigens for optimized **vaccines**.

L14 ANSWER 4 OF 6 USPATFULL  
AN 2002:243122 USPATFULL  
TI Novel constructs and their use in metabolic pathway engineering  
IN Liu, Lu, Redwood City, CA, UNITED STATES  
Zhu, Genhai, San Jose, CA, UNITED STATES  
PA MPEP @ Page 300-M (U.S. corporation)  
PI US 2002132308 A1 20020919  
AI US 2001-932254 A1 20010816 (9)  
PRAI US 2000-227719P 20000824 (60)  
DT Utility  
FS APPLICATION  
LREP QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C., P O BOX 458, ALAMEDA, CA,  
94501  
CLMN Number of Claims: 104  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Page(s)  
LN.CNT 2894

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates generally to methods and techniques for the expression of metabolic pathways, novel gene fusion constructs encoding multi-functional enzymatic domains, and related hybrid proteins.

L14 ANSWER 5 OF 6 USPATFULL  
AN 2002:144099 USPATFULL  
TI Plants and plant cells expressing histidine tagged intimin  
IN Stewart, Jr., C. Neal, Greensboro, NC, United States  
McKee, Marian L., Great Falls, VA, United States  
O'Brien, Alison D., Bethesda, MD, United States  
Wachtel, Marian R., Gaithersburg, MD, United States  
PA Henry M. Jackson Foundation for the Advancement of Military Medicine,  
Rockville, MD, United States (U.S. corporation)  
PI US 6406885 B1 20020618  
AI US 2000-696188 20001026 (9)  
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented,  
Pat. No. US 6261561  
PRAI US 1996-15938P 19960422 (60)  
US 1996-15657P 19960419 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny  
Allen  
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1  
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)  
LN.CNT 2819

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the

production of antibodies, which protect the animals/humans against EHEC colonization and infection, and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L14 ANSWER 6 OF 6 USPATFULL

AN 2002:9854 USPATFULL

TI Vectors and methods for immunization or therapeutic protocols

IN Krieg, Arthur M., Iowa City, IA, United States

Davis, Heather L., Ottawa, CANADA

Wu, Tong, Hull, CANADA

Schorr, Joachim, Hilden, GERMANY, FEDERAL REPUBLIC OF

PA University of Iowa Research Foundation, Iowa City, IA, United States  
(U.S. corporation)

Loeb Health Research Institute at the Ottawa Hospital, Ottawa, CANADA  
(non-U.S. corporation)

Coley Pharmaceutical GmbH, Langenfeld, GERMANY, FEDERAL REPUBLIC OF  
(non-U.S. corporation)

PI US 6339068 B1 20020115

AI US 1998-82649 19980520 (9)

PRAI US 1997-47209P 19970520 (60)

US 1997-47233P 19970520 (60)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Nguyen, Dave T.

LREP Wolf, Greenfield & Sacks, P. C.

CLMN Number of Claims: 109

ECL Exemplary Claim: 1

DRWN 15 Drawing Figure(s); 15 Drawing Page(s)

LN.CNT 4069

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention shows that DNA **vaccine** vectors can be improved by removal of CpG-N motifs and optional addition of CpG-S motifs. In addition, for high and long-lasting levels of expression, the optimized vector should include a promoter/enhancer that is not down-regulated by the cytokines induced by the immunostimulatory CpG motifs. Vectors and methods of use for immunostimulation are provided herein. The invention also provides improved gene therapy vectors by determining the CpG-N and CpG-S motifs present in the construct, removing stimulatory CpG (CpG-S) motifs and/or inserting neutralizing CpG (CpG-N) motifs, thereby producing a nucleic acid construct providing enhanced expression of the therapeutic polypeptide. Methods of use for such vectors are also included herein.

=> s 111 and recombinant

L15 149 L11 AND RECOMBINANT

=> s 115 and heterologous (5a) expression

L16 132 L15 AND HETEROLOGOUS (5A) EXPRESSION

=> s 116 and (transferrin binding protein or NspA or porin or outer membrane protein)

10 FILES SEARCHED...

L17 20 L16 AND (TRANSFERRIN BINDING PROTEIN OR NSPA OR PORIN OR OUTER  
MEMBRANE PROTEIN)

=> d bib ab 1-20

L17 ANSWER 1 OF 20 USPATFULL

AN 2003:78501 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES



Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2003054421 A1 20030320  
AI US 2002-102806 A1 20020322 (10)  
RLI Continuation of Ser. No. US 2001-925298, filed on 10 Aug 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000,  
UNKNOWN  
PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20141

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel ovarian cancer and/or breast cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian and/or breast antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian and/or breast polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian and/or breast nucleic acid molecules are provided encoding novel ovarian and/or breast polypeptides. Novel ovarian and/or breast polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human ovarian and/or breast polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 2 OF 20 USPATFULL

AN 2003:60089 USPATFULL

TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof

IN Fleischmann, Robert D., Gaithersburg, MD, United States

Adams, Mark D., N. Potomac, MD, United States

White, Owen, Gaithersburg, MD, United States

Smith, Hamilton O., Towson, MD, United States

Venter, J. Craig, Potomac, MD, United States

PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)

PI US 6528289 B1 20030304

AI US 2000-643990 20000823 (9)

RLI Continuation of Ser. No. US 1995-487429, filed on 7 Jun 1995

Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Martinell, James

LREP Human Genome Sciences, Inc.

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN 47 Drawing Figure(s); 47 Drawing Page(s)

LN.CNT 4428

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides the sequencing of the entire genome of *Haemophilus influenzae* Rd, SEQ ID NO:1. The present invention further provides the sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use. In addition to the entire genomic sequence, the present invention identifies over 1700 protein encoding fragments of the genome and identifies, by position relative to a unique Not I restriction endonuclease site, any regulatory elements which modulate the expression of the protein encoding fragments of the *Haemophilus* genome.

L17 ANSWER 3 OF 20 USPATFULL

AN 2003:37165 USPATFULL

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew, Salisbury, UNITED KINGDOM

Gorringer, Andrew Richard, Salisbury, UNITED KINGDOM

Hudson, Michael John, Salisbury, UNITED KINGDOM

Bracegirdle, Philippa, Salisbury, UNITED KINGDOM

Kroll, John Simon, Oxford, UNITED KINGDOM

Langford, Paul Richard, Oxford, UNITED KINGDOM

Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA

Cartwright, Keith, Brobury, UNITED KINGDOM

O'Dwyer, Cliona Anne, Furbo, IRELAND

Reddin, Karen Margaret, Salisbury, UNITED KINGDOM

PI US 2003026809 A1 20030206

AI US 2001-942583 A1 20010831 (9)

RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN

PRAI GB 1999-4028 19990222

GB 1999-22561 19990923

DT Utility

FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN 16 Drawing Page(s)

LN.CNT 1548

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal *Neisseria* or an extract of a commensal *Neisseria*. Further methods and compositions comprise commensal *Neisseria* which **express** genes from virulent strains of *Neisseria* and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L17 ANSWER 4 OF 20 USPATFULL

AN 2003:29870 USPATFULL

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew, Salisbury, UNITED KINGDOM

Gorringer, Andrew Richard, Salisbury, UNITED KINGDOM

Hudson, Michael John, Salisbury, UNITED KINGDOM

Bracegirdle, Philippa, Salisbury, UNITED KINGDOM

Kroll, John Simon, Oxford, UNITED KINGDOM

Langford, Paul Richard, Oxford, UNITED KINGDOM

Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA

Cartwright, Keith, Brobury, UNITED KINGDOM

O'Dwyer, Cliona Anne, Furbo, IRELAND

PA Microbiological Research Authority (non-U.S. corporation)

PI US 2003021812 A1 20030130

AI US 2002-185769 A1 20020701 (10)  
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser.  
No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923  
DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 803

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for the treatment of microbial infection, and  
in particular meningococcal disease, comprise a commensal  
**Neisseria** or an extract of a commensal **Neisseria**.  
Further methods and compositions comprise commensal **Neisseria**  
which **express** genes from virulent strains of **Neisseria**  
and/or **heterologous** gene products from non-**Neisseria** sources.  
Such compositions are used in **vaccine** preparations for the  
treatment of microbial infection.

L17 ANSWER 5 OF 20 USPATFULL

AN 2003:13200 USPATFULL

TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments  
thereof, and uses thereof

IN Fleischmann, Robert D., Gaithersburg, MD, United States

Adams, Mark D., N. Potomac, MD, United States

White, Owen, Gaithersburg, MD, United States

Smith, Hamilton O., Towson, MD, United States

Venter, J. Craig, Potomac, MD, United States

PA Human Genome Science, Inc., Rockville, MD, United States (U.S.  
corporation)

Johns Hopkins University, Baltimore, MD, United States (U.S.  
corporation)

PI US 6506581 B1 20030114

AI US 2000-557884 20000425 (9)

RLI Continuation of Ser. No. US 1995-476102, filed on 7 Jun 1995  
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995,  
now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Brusca, John S.

LREP Human Genome Sciences, Inc.

CLMN Number of Claims: 51

ECL Exemplary Claim: 1

DRWN 47 Drawing Figure(s); 47 Drawing Page(s)

LN.CNT 4510

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides the sequencing of the entire genome of  
Haemophilus influenzae Rd, SEQ ID NO:1. The present invention further  
provides the sequence information stored on computer readable media, and  
computer-based systems and methods which facilitate its use. In addition  
to the entire genomic sequence, the present invention identifies over  
1700 protein encoding fragments of the genome and identifies, by  
position relative to a unique Not I restriction endonuclease site, any  
regulatory elements which modulate the expression of the protein  
encoding fragments of the Haemophilus genome.

L17 ANSWER 6 OF 20 USPATFULL

AN 2002:294649 USPATFULL

TI Immune system-related polynucleotides, polypeptides, and antibodies

IN Ni, Jian, Germantown, MD, UNITED STATES

Hilbert, David, Bethesda, MD, UNITED STATES  
Kenny, Joseph J., Damascus, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Choi, Gil H., Rockville, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Gruber, Joachim R., Dallas, TX, UNITED STATES  
Endress, Gregory A., Florence, MA, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002164692 A1 20021107  
AI US 2001-949842 A1 20010912 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US7260, filed on 7 Mar 2001,  
UNKNOWN  
PRAI US 2000-187873P 20000308 (60)  
US 2000-224367P 20000811 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13952

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel human immune system-related polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and **recombinant** methods for producing human immune system-related polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human immune system-related polypeptides.

L17 ANSWER 7 OF 20 USPATFULL

AN 2002:283365 USPATFULL

TI Invasion associated genes from **Neisseria meningitidis** serogroup B

IN Ribot, Efrain M., Atlanta, GA, United States  
Stephens, David S., Stone Mountain, GA, United States  
Raymond, Nigel, Wellington, NEW ZEALAND  
Quinn, Frederick D., Avondale Estates, GA, United States

PA Centers for Disease Control and Prevention, as represented by the Secretary, Department of Health and Human Services, Atlanta, GA, United States (U.S. government)

PI US 6472518 B1 20021029  
WO 9817805 19980430

AI US 1999-284926 19990817 (9)  
WO 1997-US19424 19971024  
19990817 PCT 371 date

PRAI US 1996-30432P 19961024 (60)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Graser, Jennifer E.

LREP Needle & Roseberg, P.C.

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN 27 Drawing Figure(s); 27 Drawing Page(s)

LN.CNT 3137

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Genes isolated from **Neisseria meningitidis**, as well as isolated nucleic acids, probes, expression cassettes, polypeptides, antibodies, immunogenic compositions, antisense nucleic acids, amplification mixtures, and new invasion deficient strains of **Neisseria meningitidis** are provided. Methods of detecting **Neisseria meningitidis** and **Neisseria meningitidis**

nucleic acids, and methods of inhibiting the invasion of mammalian cells by *Neisseria meningitidis* are also provided.

L17 ANSWER 8 OF 20 USPATFULL

AN 2002:164714 USPATFULL

TI Method of reducing bacterial proliferation

IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES

Heithoff, Douglas M., Goleta, CA, UNITED STATES

Low, David A., Goleta, CA, UNITED STATES

Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES

PI US 2002086332 A1 20020704

AI US 2001-928227 A1 20010809 (9)

RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000,  
PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb  
2000, PENDING

PRAI US 1999-183043P 19990202 (60)

US 1999-198250P 19990505 (60)

DT Utility

FS APPLICATION

LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo  
Alto, CA, 94304-1018

CLMN Number of Claims: 46

ECL Exemplary Claim: 1

DRWN 8 Drawing Page(s)

LN.CNT 3811

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Bacteria and in particular pathogenic bacteria are treated in a manner  
which alters the bacteria's native level or activity of DNA  
methyltransferase (Dam). The alteration results in a change in the  
bacteria's native level of methylation of adenine in a GATC  
tetranucleotide which inhibits virulence of the bacteria. Thus,  
compounds which inhibit proliferation of bacteria are useful in treating  
bacterial infections.

L17 ANSWER 9 OF 20 USPATFULL

AN 2002:164418 USPATFULL

TI Producing antibodies with attenuated bacteria with altered DNA adenine  
methylase activity

IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES

Heithoff, Douglas M., Goleta, CA, UNITED STATES

Low, David A., Goleta, CA, UNITED STATES

Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES

PI US 2002086032 A1 20020704

AI US 2001-927896 A1 20010809 (9)

RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000,  
PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb  
2000, PENDING

PRAI US 1999-183043P 19990202 (60)

US 1999-198250P 19990505 (60)

DT Utility

FS APPLICATION

LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo  
Alto, CA, 94304-1018

CLMN Number of Claims: 42

ECL Exemplary Claim: 1

DRWN 8 Drawing Page(s)

LN.CNT 3833

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed towards methods of producing  
antibodies using an attenuated strain of pathogenic bacteria (e.g.  
Haemophilus, E. coli, and/or Salmonella) having non-reverting genetic  
mutations relative to the wild-type organism which alter activity of DNA  
adenine methylase (Dam). The invention further includes compositions  
comprised of the attenuated bacteria and methods using these

compositions to elicit an immune response and immunize a subject with highly specific antibodies. The invention also provides methods producing antibodies to heterologous antigens which the attenuated bacteria are engineered to produce.

L17 ANSWER 10 OF 20 USPATFULL  
AN 2002:164414 USPATFULL  
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof  
IN Judd, Ralph C., Florence, MT, UNITED STATES  
Manning, D. Scott, Missoula, MT, UNITED STATES  
PI US 2002086028 A1 20020704  
AI US 2001-994192 A1 20011126 (9)  
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING  
DT Utility  
FS APPLICATION  
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477  
CLMN Number of Claims: 25  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Page(s)  
LN.CNT 2013,  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Nucleic acid and amino acid sequences of the Omp85 proteins of *N. gonorrhoeae* and *N. meningitidis*, and fragments thereof are useful in **vaccine** compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L17 ANSWER 11 OF 20 USPATFULL  
AN 2002:156721 USPATFULL  
TI Bacteria with altered DNA adenine methylase (DAM) activity and heterologous epitope  
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES  
Heithoff, Douglas M., Goleta, CA, UNITED STATES  
Low, David A., Goleta, CA, UNITED STATES  
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES  
PI US 2002081317 A1 20020627  
AI US 2001-927788 A1 20010809 (9)  
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING  
PRAI US 1999-183043P 19990202 (60)  
US 1999-198250P 19990505 (60)  
DT Utility  
FS APPLICATION  
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018  
CLMN Number of Claims: 29  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 3781  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Immunogenic compositions are disclosed which are comprised of bacteria which are pathogenic in their native state but which are rendered non-pathogenic in a manner which alters the native level or activity of DNA adenine methylase. The genome is also artificially engineered to **express a heterologous** antigen such as an immunogenic antigen of a virus, protozoa, parasite or fungi.

L17 ANSWER 12 OF 20 USPATFULL

AN 2002:149116 USPATFULL  
TI Reducing bacterial virulence  
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES  
Heithoff, Douglas M., Goleta, CA, UNITED STATES  
Low, David A., Goleta, CA, UNITED STATES  
Sinsheimer, Robert L., Santa Barbra, CA, UNITED STATES  
PI US 2002077272 A1 20020620  
AI US 2001-927885 A1 20010809 (9)  
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000,  
PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb  
2000, PENDING  
PRAI US 1999-183043P 19990202 (60)  
US 1999-198250P 19990505 (60)  
DT Utility  
FS APPLICATION  
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo  
Alto, CA, 94304-1018  
CLMN Number of Claims: 44  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 3809

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The virulence of bacterial strains and in particular pathogenic bacteria  
which infect human is reduced by an agent which alters the bacteria's  
native level or activity of DNA methyltransferase (Dam). The agent  
causes an alteration in the bacteria's native level of methylation of  
adenine in a GATC tetranucleotide which inhibits virulence of the  
bacteria. Thus, compounds and formulations thereof which reduce  
bacterial virulence inhibit proliferation of bacteria and are useful in  
treating bacterial infections, particularly in humans.

L17 ANSWER 13 OF 20 USPATFULL

AN 2002:148280 USPATFULL  
TI Attenuated bacteria with altered DNA adenine methylase activity  
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES  
Heithoff, Douglas M., Goleta, CA, UNITED STATES  
Low, David A., Goleta, CA, UNITED STATES  
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES  
PI US 2002076417 A1 20020620  
AI US 2001-927767 A1 20010809 (9)  
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000,  
PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb  
2000, PENDING  
PRAI US 1999-183043P 19990202 (60)  
US 1999-198250P 19990505 (60)  
DT Utility  
FS APPLICATION  
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo  
Alto, CA, 94304-1018  
CLMN Number of Claims: 34  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 3803

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed towards an attenuated strain of  
pathogenic bacteria (e.g. Haemophilus, E. Coli, and/or Salmonella)  
having non-reverting genetic mutations relative to the wild-type  
organism which alter activity of DNA adenine methylase (Dam). The  
invention further includes compositions comprised of the attenuated  
bacteria and methods using these compositions to elicit an immune  
response to produce highly specific antibodies. The invention also  
provides methods for preparing **vaccines** as well as screening  
methods to identify agents which may have anti-bacterial activity.

L17 ANSWER 14 OF 20 USPATFULL  
 AN 2002:144099 USPATFULL  
 TI Plants and plant cells expressing histidine tagged intimin  
 IN Stewart, Jr., C. Neal, Greensboro, NC, United States  
 McKee, Marian L., Great Falls, VA, United States  
 O'Brien, Alison D., Bethesda, MD, United States  
 Wachtel, Marian R., Gaithersburg, MD, United States  
 PA Henry M. Jackson Foundation for the Advancement of Military Medicine,  
 Rockville, MD, United States (U.S. corporation)  
 PI US 6406885 B1 20020618  
 AI US 2000-696188 20001026 (9)  
 RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented,  
 Pat. No. US 6261561  
 PRAI US 1996-15938P 19960422 (60)  
 US 1996-15657P 19960419 (60)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny  
 Allen  
 LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
 CLMN Number of Claims: 13  
 ECL Exemplary Claim: 1  
 DRWN 23 Drawing Figure(s); 23 Drawing Page(s)  
 LN.CNT 2819  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention satisfies needs in the art by providing intimin, the  
 Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as  
 a fusion protein with one or more other antigens, expressed by  
 transgenic plants and the use of those plants as vehicles for  
 stimulating a protective immune response against EHEC and the one or  
 more other antigens. Various plant species are transformed to protect  
 various animal species and also humans against EHEC, against pathogens  
 expressing intimin-like proteins, and against pathogens expressing any  
 of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a  
 recombination that encodes a fusion protein is put under the control of  
 a constitutive plant promoter in a plasmid and the plasmid is introduced  
 into plants by the type of transformation appropriate for the particular  
 plant species. The engineered plants expressing intimin or the intimin  
 fusion protein are then fed to animals and/or humans to elicit the  
 production of antibodies, which protect the animals/humans against EHEC  
 colonization and infection, and against pathogens expressing the one or  
 more other antigens and any cross-reactive antigens. The invention may  
 also be practiced by expressing the intimin or intimin fusion protein in  
 other host organisms such as bacteria, yeast, and fungi.

L17 ANSWER 15 OF 20 USPATFULL  
 AN 2002:133219 USPATFULL  
 TI Method of creating antibodies and compositions used for same  
 IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES  
 Heithoff, Douglas M.; Goleta, CA, UNITED STATES  
 Low, David A., Goleta, CA, UNITED STATES  
 Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES  
 PI US 2002068068 A1 20020606  
 AI US 2001-927765 A1 20010809 (9)  
 RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000,  
 PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb  
 2000, PENDING  
 PRAI US 1999-183043P 19990202 (60)  
 US 1999-198250P 19990505 (60)  
 DT Utility  
 FS APPLICATION  
 LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo



Alto, CA, 94304-1018  
CLMN Number of Claims: 34  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 3795

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed towards compositions containing pathogenic bacteria (e.g. Haemophilus, E. Coli, and/or Salmonella) having non-reverting genetic mutations which alter activity of DNA adenine methylase (Dam) and methods using these compositions to elicit an immune response to produce highly specific antibodies. The invention also provides methods for preparing **vaccines** as well as screening methods to identify agents which may have anti-bacterial activity.

L17 ANSWER 16 OF 20 USPATFULL

AN 2002:106416 USPATFULL

TI Nucleic acids, proteins and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002055627 A1 20020509

US 2003040617 A9 20030227

AI US 2001-925299 A1 20010810 (9)

RLI Continuation of Ser. No. WO 2000-US5883, filed on 8 Mar 2000, UNKNOWN

PRAI US 1999-124270P 19990312 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 20658

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel colorectal cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "colorectal cancer antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such colorectal cancer polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the colon and/or rectum, including, but not limited to, the presence of colorectal cancer and colorectal cancer metastases. More specifically, isolated colorectal cancer nucleic acid molecules are provided encoding novel colorectal cancer polypeptides. Novel colorectal cancer polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human colorectal cancer polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the colon and/or rectum, including colorectal cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 17 OF 20 USPATFULL

AN 2002:72627 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002039764 A1 20020404

AI US 2001-925298 A1 20010810 (9)

RLI Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000,

UNKNOWN  
PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20087

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel ovarian cancer and/or breast cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian and/or breast antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian and/or breast polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian and/or breast nucleic acid molecules are provided encoding novel ovarian and/or breast polypeptides. Novel ovarian and/or breast polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human ovarian and/or breast polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 18 OF 20 USPATFULL

AN 2002:50802 USPATFULL

TI Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof

IN Fleischmann, Robert D., Gaithersburg, MD, United States  
Adams, Mark D., N. Potomac, MD, United States  
White, Owen, Gaithersburg, MD, United States  
Smith, Hamilton O., Towson, MD, United States  
Venter, J. Craig, Potomac, MD, United States

PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

PI US 6355450 B1 20020312

AI US 1995-476102 19950607 (8)

RLI Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Campell, Bruce R.

CLMN Number of Claims: 88

ECL Exemplary Claim: 1

DRWN 47 Drawing Figure(s); 47 Drawing Page(s)

LN.CNT 4666

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides the sequencing of the entire genome of Haemophilus influenzae Rd, SEQ ID NO: 1. The present invention further provides the sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use. In addition to the entire genomic sequence, the present invention identifies over 1700 protein encoding fragments of the genome and identifies, by

position relative to a unique Not I restriction endonuclease site, any regulatory elements which modulate the expression of the protein encoding fragments of the Haemophilus genome.

L17 ANSWER 19 OF 20 USPATFULL

AN 2002:19176 USPATFULL  
TI Method of detecting shigella and shigella mxiM DNA  
IN Schuch, Raymond, Washington, DC, United States  
Sandlin, Robin C., Columbia, MD, United States  
Maurelli, Anthony T., Silver Spring, MD, United States  
PA The Henry M. Jackson Foundation for the Advancement of Military  
Medicine, Rockville, MD, United States (U.S. corporation)  
PI US 6342352 B1 20020129  
AI US 1999-296670 19990422 (9)  
PRAI US 1998-82944P 19980424 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Devi, S.  
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
CLMN Number of Claims: 3  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)  
LN.CNT 2019

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to our discovery that the mxiM protein of Shigella flexneri is indispensable for the spread of Shigella from cell to cell. Thus, the invention provides the mxiM protein or peptides or portions thereof as antigens in **vaccines** to prevent Shigella infections and treat hosts infected with Shigella by inhibiting intercellular spread. In another aspect, the invention relates to antibodies generated against the mxiM proteins, peptides, or portions thereof to detect Shigella in contaminated food and water supplies as well as in infected hosts. The present invention also describes a method called the TIER (test of intracellular expression requirements) for determining the intracellular expression requirements of genes and therefore, permitting one to establish the role of genes in the pathogenesis of organisms. A method of detecting Shigella or Shigella mxiM DNA in a sample using a mxiM DNA probe is also described.

L17 ANSWER 20 OF 20 USPATFULL

AN 2002:12031 USPATFULL  
TI HISTIDINE-TAGGED INTIMIN AND METHODS OF USING INTIMIN TO STIMULATE AN IMMUNE RESPONSE AND AS AN ANTIGEN CARRIER WITH TARGETING CAPABILITY  
IN MCKEE, MARIAN L., GREAT FALLS, VA, UNITED STATES  
O'BRIEN, ALISON D., BETHESDA, MD, UNITED STATES  
WACHTEL, MARIAN R., GAITHERSBURG, MD, UNITED STATES  
PA Henry M. Jackson Foundation for the Advancement of Military Medicine (U.S. corporation)  
PI US 2002006407 A1 20020117  
AI US 1997-837459 A1 19970418 (8)  
PRAI US 1996-15657P 19960419 (60)  
US 1996-15936P 19960422 (60)  
DT Utility  
FS APPLICATION  
LREP FINNEGAN HENDERSON FARABOW GARRETT &, DUNNER, 1300 I STREET NW, WASHINGTON, DC, 200053315  
CLMN Number of Claims: 50  
ECL Exemplary Claim: 1  
DRWN 18 Drawing Page(s)  
LN.CNT 2287

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes the isolation and purification of histidine-tagged functional portions of intimin (his-tagged intimin or his-intimin), a protein associated with the ability of certain strains

of pathogenic bacteria to adhere to epithelial cells. The invention further describes the use of intimin as an antigen to promote a protective immune response. In addition, the invention describes the combination of intimin with one or more other antigens and administration of the combination to promote a protective immune response against intimin and the one or more antigens.

One aspect of the invention is the administration of intimin to target specific epithelial cells to promote a protective immune response to intimin proteins. Additional aspects of the invention include the use of intimin or intimin combined with one or more antigens and administration of the combination to target gastrointestinal **mucosa** and stimulate an immune response. Additionally, the invention describes administration of the combination of intimin combined with drugs, to provide a means for targeted delivery of drugs to specific epithelial cells. Other aspects of the invention include the production of antibodies directed against his-intimin and methods of using such antibodies to provide passive immune protection, and in an assay system.

=>

=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003

L1 682 S NEISSERIA AND COMMENSAL  
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?  
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

L4 8698 S NEISSERIA AND VACCIN?  
L5 401 S L4 AND HETEROLOGOUS (10A) EXPRESS?  
L6 156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES  
L7 0 S L5 AND LACTAMIA  
L8 0 S L5 AND LACATAMICA  
L9 10 S L5 AND LACTAMICA  
L10 9 DUP REM L9 (1 DUPLICATE REMOVED)  
L11 150 DUP REM L6 (6 DUPLICATES REMOVED)  
L12 136 S L11 AND EXPRESSION VECTOR  
L13 6 S L12 AND COMMENSAL  
L14 6 S L11 AND VACCINE VECTOR  
L15 149 S L11 AND RECOMBINANT  
L16 132 S L15 AND HETEROLOGOUS (5A) EXPRESSION  
L17 20 S L16 AND (TRANSFERRIN BINDING PROTEIN OR NSPA OR PORIN OR OUT

=> d l12 bib 1-136

L12 ANSWER 1 OF 136 WPIDS (C) 2003 THOMSON DERWENT

AN 2000-549378 [50] WPIDS

DNC C2000-164066

TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial **vaccine**.

DC B04 D16

IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M

PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J;

(KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)\* EN 35p  
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
AU 2000026811 A 20000914 (200063)  
EP 1154791 A2 20011121 (200176) EN  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
RO SE SI  
JP 2002537352 W 20021105 (200304) 39p  
US 2003021812 A1 20030130 (200311)  
US 2003026809 A1 20030206 (200313)  
ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811  
20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222;  
JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US  
2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041  
20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624  
20000222, US 2001-942583 20010831  
FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO  
200050074; JP 2002537352 W Based on WO 200050074  
PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

L12 ANSWER 2 OF 136 CAPLUS COPYRIGHT 2003 ACS

AN 2001:207884 CAPLUS

DN 134:227335

TI Oral recombinant Lactobacillus plantarum **vaccines**

IN Shaw, David Michael; Leer, Robert Jan; Pouwels, Peter

PA Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek  
TNO, Neth.

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1084709	A1	20010321	EP 1999-203056	19990917
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2001021200	A1	20010329	WO 2000-GB3575	20000918
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1212083	A1	20020612	EP 2000-962689	20000918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003509469	T2	20030311	JP 2001-524624	20000918
PRAI EP 1999-203056	A	19990917		
WO 2000-GB3575	W	20000918		

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 136 USPATFULL

US 2000-246523P	20001108 (60)
US 2000-246524P	20001108 (60)
US 2000-246478P	20001108 (60)
US 2000-246609P	20001108 (60)
US 2000-246613P	20001108 (60)
US 2000-249300P	20001117 (60)
US 2000-249265P	20001117 (60)
US 2000-246610P	20001108 (60)
US 2000-246611P	20001108 (60)
US 2000-230437P	20000906 (60)
US 2000-251990P	20001208 (60)
US 2000-251988P	20001205 (60)
US 2000-251030P	20001205 (60)
US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20034

L12 ANSWER 7 OF 136 USPATFULL

AN 2003:99224 USPATFULL  
TI Live attenuated salmonella strains for producing monovalent or multivalent **vaccines**  
IN Vladoianu, Ion R., Cologny, SWITZERLAND  
Berdoz, Jose A., Chernex, SWITZERLAND  
PI US 2003068328 A1 20030410  
AI US 2001-11960 A1 20011105 (10)  
PRAI US 2001-327472P 20011004 (60)  
DT Utility  
FS APPLICATION  
LREP MINTZ, LEVIN, COHN, FERRIS, GLOVSKY and POPEO, P.C, One Financial Center, Boston, MA, 02111  
CLMN Number of Claims: 35  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 1436

L12 ANSWER 8 OF 136 USPATFULL

AN 2003:92714 USPATFULL  
TI Method of using a facilitator of retroviral entry into cells  
IN Littman, Dan R., New York, NY, UNITED STATES  
Kwon, Douglas, Long Island City, NY, UNITED STATES  
Kooyk, Yvette Van, Nijmegen, NETHERLANDS  
Geijtenbeek, Teunis, Nijmegen, NETHERLANDS

PI US 2003064071 A1 20030403  
AI US 2002-151274 A1 20020520 (10)  
RLI Division of Ser. No. US 2000-517605, filed on 2 Mar 2000, GRANTED, Pat.  
No. US 6391567  
DT Utility  
FS APPLICATION  
LREP KLAUBER & JACKSON, 411 HACKENSACK AVENUE, HACKENSACK, NJ, 07601  
CLMN Number of Claims: 35  
ECL Exemplary Claim: 1  
DRWN 15 Drawing Page(s)  
LN.CNT 3523  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 9 OF 136 USPATFULL  
AN 2003:86331 USPATFULL  
TI Antibodies that immunospecifically bind BlyS  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
Choi, Gil H., Rockville, MD, UNITED STATES  
Vaughan, Tristan, Great Shelford, UNITED KINGDOM  
Hilbert, David, Bethesda, MD, UNITED STATES

PI US 2003059937 A1 20030327  
AI US 2001-880748 A1 20010615 (9)  
PRAI US 2000-212210P 20000616 (60)  
US 2000-240816P 20001017 (60)  
US 2001-276248P 20010316 (60)  
US 2001-277379P 20010321 (60)  
US 2001-293499P 20010525 (60)

DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 96  
ECL Exemplary Claim: 1  
DRWN 16 Drawing Page(s)  
LN.CNT 17997  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 10 OF 136 USPATFULL  
AN 2003:86270 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2003059875 A1 20030327  
AI US 2002-125540 A1 20020419 (10)  
RLI Continuation of Ser. No. US 2001-764870, filed on 17 Jan 2001, ABANDONED  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)

L12 ANSWER 11 OF 136 USPATFULL  
AN 2003:86257 USPATFULL  
TI Antibodies against tumor necrosis factor delta (APRIL)  
IN Ruben, Steven M., Brookeville, MD, UNITED STATES  
PI US 2003059862 A1 20030327  
AI US 2002-151882 A1 20020522 (10)  
PRAI US 2001-293100P 20010524 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 61  
ECL Exemplary Claim: 1  
DRWN 3 Drawing Page(s)  
LN.CNT 8330  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 12 OF 136 USPATFULL  
AN 2003:79064 USPATFULL  
TI Polynucleotide encoding two novel human potassium channel beta-subunits, K+betaM4 and K+betaM5  
IN Feder, John N., Belle Mead, NJ, UNITED STATES  
Lee, Liana, North Brunswick, NJ, UNITED STATES  
Chen, Jian, Princeton, NJ, UNITED STATES  
Jackson, Donald, Lawrenceville, NJ, UNITED STATES  
Ramanathan, Chandra S., Wallingford, CT, UNITED STATES  
Siemers, Nathan O., Pennington, NJ, UNITED STATES  
Chang, Han, Princeton Junction, NJ, UNITED STATES  
Carroll, Pamela, Princeton, NJ, UNITED STATES  
PI US 2003054989 A1 20030320  
AI US 2002-86156 A1 20020228 (10)  
PRAI US 2001-272190P 20010228 (60)  
US 2001-274258P 20010307 (60)  
DT Utility  
FS APPLICATION  
LREP STEPHEN B. DAVIS, BRISTOL-MYERS SQUIBB COMPANY, PATENT DEPARTMENT, P O BOX 4000, PRINCETON, NJ, 08543-4000  
CLMN Number of Claims: 20  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Page(s)  
LN.CNT 13779  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 13 OF 136 USPATFULL  
AN 2003:78501 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2003054421 A1 20030320  
AI US 2002-102806 A1 20020322 (10)  
RLI Continuation of Ser. No. US 2001-925298, filed on 10 Aug 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000, UNKNOWN  
PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20141  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 14 OF 136 USPATFULL  
AN 2003:78459 USPATFULL



US 2000-241221P	20001020 (60)
US 2000-246475P	20001108 (60)
US 2000-231243P	20000908 (60)
US 2000-233065P	20000914 (60)
US 2000-232398P	20000914 (60)
US 2000-234998P	20000925 (60)
US 2000-246477P	20001108 (60)
US 2000-246528P	20001108 (60)
US 2000-246525P	20001108 (60)
US 2000-246476P	20001108 (60)
US 2000-246526P	20001108 (60)
US 2000-249209P	20001117 (60)
US 2000-246527P	20001108 (60)
US 2000-246523P	20001108 (60)
US 2000-246524P	20001108 (60)
US 2000-246478P	20001108 (60)
US 2000-246609P	20001108 (60)
US 2000-246613P	20001108 (60)
US 2000-249300P	20001117 (60)
US 2000-249265P	20001117 (60)
US 2000-246610P	20001108 (60)
US 2000-246611P	20001108 (60)
US 2000-230437P	20000906 (60)
US 2000-251990P	20001208 (60)
US 2000-251988P	20001205 (60)
US 2000-251030P	20001205 (60)
US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 18653

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 16 OF 136 USPATFULL

AN 2003:74145 USPATFULL

TI Rotavirus enterotoxin adjuvant

IN Estes, Mary K., Friendswood, TX, United States

PA Baylor College of Medicine, Houston, TX, United States (U.S. corporation)

PI US 6534067 B1 20030318

AI US 2000-687698 20001013 (9)

PRAI US 1999-159390P 19991014 (60)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Housel, James; Assistant Examiner: Foley, Shanon  
LREP Fulbright & Jaworski L.L.P.  
CLMN Number of Claims: 17  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)  
LN.CNT 1809  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 17 OF 136 USPATFULL

AN 2003:72168 USPATFULL  
TI 64 human secreted proteins  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Greene, John M., Gaithersburg, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Feng, Ping, Gaithersburg, MD, UNITED STATES  
Florence, Kimberly A., Rockville, MD, UNITED STATES  
Hu, Jing-Shan, Mountain View, CA, UNITED STATES  
Ferrie, Ann M., Tewksbury, MA, UNITED STATES  
Yu, Guo-Liang, Berkeley, CA, UNITED STATES  
Duan, Roxanne D., Bethesda, MD, UNITED STATES  
Janat, Fouad, Westerly, RI, UNITED STATES  
PI US 2003050455 A1 20030313  
AI US 2001-776724 A1 20010206 (9)  
RLI Continuation-in-part of Ser. No. US 2000-669688, filed on 26 Sep 2000,  
PENDING Continuation of Ser. No. US 1999-229982, filed on 14 Jan 1999,  
PENDING Continuation-in-part of Ser. No. WO 1998-US14613, filed on 15  
Jul 1998, UNKNOWN  
PRAI US 2000-180909P 20000208 (60)  
US 1997-53442P 19970722 (60)  
US 1997-56359P 19970818 (60)  
US 1997-52661P 19970716 (60)  
US 1997-52872P 19970716 (60)  
US 1997-52871P 19970716 (60)  
US 1997-52874P 19970716 (60)  
US 1997-52873P 19970716 (60)  
US 1997-52870P 19970716 (60)  
US 1997-52875P 19970716 (60)  
US 1997-53440P 19970722 (60)  
US 1997-53441P 19970722 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Page(s)  
LN.CNT 21934  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 18 OF 136 USPATFULL

AN 2003:71367 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2003049652 A1 20030313  
AI US 2002-92256 A1 20020307 (10)  
RLI Continuation of Ser. No. US 2001-764884, filed on 17 Jan 2001, ABANDONED  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)

US 2000-246524P	20001108 (60)
US 2000-246478P	20001108 (60)
US 2000-246609P	20001108 (60)
US 2000-246613P	20001108 (60)
US 2000-249300P	20001117 (60)
US 2000-249265P	20001117 (60)
US 2000-246610P	20001108 (60)
US 2000-246611P	20001108 (60)
US 2000-230437P	20000906 (60)
US 2000-251990P	20001208 (60)
US 2000-251988P	20001205 (60)
US 2000-251030P	20001205 (60)
US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 22593

L12 ANSWER 20 OF 136 USPATFULL

AN 2003:71363 USPATFULL

TI 37 staphylococcus aureus genes and polypeptides

IN Choi, Gil H., Rockville, MD, UNITED STATES

PI US 2003049648 A1 20030313

AI US 2002-84205 A1 20020228 (10)

RLI Continuation-in-part of Ser. No. WO 2000-US23773, filed on 31 Aug 2000, UNKNOWN

PRAI US 1999-151933P 19990901 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 9769

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 21 OF 136 USPATFULL

AN 2003:71333 USPATFULL

TI 186 human secreted proteins

IN Ruben, Steven M., Olney, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Soppet, Daniel R., Centreville, VA, UNITED STATES

Carter, Kenneth C., North Potomac, MD, UNITED STATES

Bednarik, Daniel P., Columbia, MD, UNITED STATES

Endress, Gregory A., Florence, MA, UNITED STATES  
 Yu, Guo-Liang, Berkeley, CA, UNITED STATES  
 Ni, Jian, Germantown, MD, UNITED STATES  
 Feng, Ping, Gaithersburg, MD, UNITED STATES  
 Young, Paul E., Gaithersburg, MD, UNITED STATES  
 Greene, John M., Gaithersburg, MD, UNITED STATES  
 Ferrie, Ann M., Painted Post, NY, UNITED STATES  
 Duan, D. Roxanne, Bethesda, MD, UNITED STATES  
 Hu, Jing-Shan, Mountain View, CA, UNITED STATES  
 Florence, Kimberly A., Rockville, MD, UNITED STATES  
 Olsen, Henrik S., Gaithersburg, MD, UNITED STATES  
 Fischer, Carrie L., Burke, VA, UNITED STATES  
 Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
 Brewer, Laurie A., St. Paul, MN, UNITED STATES  
 Moore, Paul A., Germantown, MD, UNITED STATES  
 Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
 LaFleur, David W., Washington, DC, UNITED STATES  
 Li, Yi, Sunnyvale, CA, UNITED STATES  
 Zeng, Zhizhen, Lansdale, PA, UNITED STATES  
 Kyaw, Hla, Frederick, MD, UNITED STATES

PI US 2003049618 A1 20030313

AI US 2001-809391 A1 20010316 (9)

RLI Continuation-in-part of Ser. No. US 1998-149476, filed on 8 Sep 1998,  
 GRANTED, Pat. No. US 6420526 Continuation-in-part of Ser. No. WO  
 1998-US4493, filed on 6 Mar 1998, UNKNOWN

PRAI US 2000-190068P 20000317 (60)  
 US 1997-40162P 19970307 (60)  
 US 1997-40333P 19970307 (60)  
 US 1997-38621P 19970307 (60)  
 US 1997-40626P 19970307 (60)  
 US 1997-40334P 19970307 (60)  
 US 1997-40336P 19970307 (60)  
 US 1997-40163P 19970307 (60)  
 US 1997-47600P 19970523 (60)  
 US 1997-47615P 19970523 (60)  
 US 1997-47597P 19970523 (60)  
 US 1997-47502P 19970523 (60)  
 US 1997-47633P 19970523 (60)  
 US 1997-47583P 19970523 (60)  
 US 1997-47617P 19970523 (60)  
 US 1997-47618P 19970523 (60)  
 US 1997-47503P 19970523 (60)  
 US 1997-47592P 19970523 (60)  
 US 1997-47581P 19970523 (60)  
 US 1997-47584P 19970523 (60)  
 US 1997-47500P 19970523 (60)  
 US 1997-47587P 19970523 (60)  
 US 1997-47492P 19970523 (60)  
 US 1997-47598P 19970523 (60)  
 US 1997-47613P 19970523 (60)  
 US 1997-47582P 19970523 (60)  
 US 1997-47596P 19970523 (60)  
 US 1997-47612P 19970523 (60)  
 US 1997-47632P 19970523 (60)  
 US 1997-47601P 19970523 (60)  
 US 1997-43580P 19970411 (60)  
 US 1997-43568P 19970411 (60)  
 US 1997-43314P 19970411 (60)  
 US 1997-43569P 19970411 (60)  
 US 1997-43311P 19970411 (60)  
 US 1997-43671P 19970411 (60)  
 US 1997-43674P 19970411 (60)  
 US 1997-43669P 19970411 (60)  
 US 1997-43312P 19970411 (60)

CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 2 Drawing Page(s)  
LN.CNT 26235

L12 ANSWER 22 OF 136 USPATFULL  
AN 2003:65375 USPATFULL  
TI Dendritic cells transduced with a wild-type self gene elicit potent  
antitumor immune responses  
IN Gabrilovich, Dmitry, Aurora, IL, UNITED STATES  
Carbone, David, Franklin, TN, UNITED STATES  
Chada, Sunil, Missouri City, TX, UNITED STATES  
Mhashikar, Abner, Houston, TX, UNITED STATES  
PA Vanderbilt University and Introgen Therapeutics, Inc. (U.S. corporation)  
PI US 2003045499 A1 20030306  
AI US 2002-216346 A1 20020809 (10)  
RLI Division of Ser. No. US 2000-526320, filed on 15 Mar 2000, PENDING  
PRAI US 1999-124482P 19990315 (60)  
US 1999-124388P 19990315 (60)  
DT Utility  
FS APPLICATION  
LREP Robert E. Hanson, FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600 Congress  
Avenue, Austin, TX, 78701  
CLMN Number of Claims: 60  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 3256

L12 ANSWER 23 OF 136 USPATFULL  
AN 2003:64786 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2003044907 A1 20030306  
AI US 2002-80110 A1 20020222 (10)  
RLI Continuation of Ser. No. US 2001-764857, filed on 17 Jan 2001, ABANDONED  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)

FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 17990  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 27 OF 136 USPATFULL  
AN 2003:60089 USPATFULL  
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof  
IN Fleischmann, Robert D., Gaithersburg, MD, United States  
Adams, Mark D., N. Potomac, MD, United States  
White, Owen, Gaithersburg, MD, United States  
Smith, Hamilton O., Towson, MD, United States  
Venter, J. Craig, Potomac, MD, United States  
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)  
Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)  
PI US 6528289 B1 20030304  
AI US 2000-643990 20000823 (9)  
RLI Continuation of Ser. No. US 1995-487429, filed on 7 Jun 1995  
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Martinell, James  
LREP Human Genome Sciences, Inc.  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)  
LN.CNT 4428  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 28 OF 136 USPATFULL  
AN 2003:57430 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2003039994 A1 20030227  
AI US 2002-91526 A1 20020307 (10)  
RLI Continuation of Ser. No. US 2001-764889, filed on 17 Jan 2001, PENDING  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)

US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 17108

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 30 OF 136 USPATFULL

AN 2003:57103 USPATFULL

TI Anti-fungal composition

IN Jira, Vic, El Monte, CA, UNITED STATES

Jirathitikal, Vichai, Chachoengsao, THAILAND

PI US 2003039667 A1 20030227

AI US 2002-228280 A1 20020827 (10)

PRAI US 2001-314666P 20010827 (60)

DT Utility

FS APPLICATION

LREP BLANK ROME COMISKY & MCCAULEY, LLP, 900 17TH STREET, N.W., SUITE 1000,  
WASHINGTON, DC, 20006

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1664

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 31 OF 136 USPATFULL

AN 2003:51547 USPATFULL

TI Signal transduction pathway component polynucleotides, polypeptides,  
antibodies and methods based thereon

IN Barash, Steven C., Rockville, MD, UNITED STATES

Ni, Jian, Germantown, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Young, Paul E., Berkeley, CA, UNITED STATES

Rohrschneider, Larry R., Seattle, WA, UNITED STATES

PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S.  
corporation)

PI US 2003036505 A1 20030220

AI US 2001-955999 A1 20010920 (9)

PRAI US 2000-234997P 20000925 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1  
DRWN 2 Drawing Page(s)  
LN.CNT 24363  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 32 OF 136 USPATFULL  
AN 2003:50834 USPATFULL  
TI Combination therapy for the prevention or treatment of cancer,  
inflammatory disorders or infectious diseases in a subject  
IN Chen, Shu-Hsia, New York, NY, UNITED STATES  
Pan, Ping-Yan, New York, NY, UNITED STATES  
Woo, Savio L.C., New York, NY, UNITED STATES  
PI US 2003035790 A1 20030220  
AI US 2002-165643 A1 20020607 (10)  
RLI Continuation-in-part of Ser. No. US 2000-735296, filed on 14 Jan 2000,  
PENDING  
PRAI US 1999-115992P 19990115 (60)  
DT Utility  
FS APPLICATION  
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711  
CLMN Number of Claims: 40  
ECL Exemplary Claim: 1  
DRWN 23 Drawing Page(s)  
LN.CNT 6417  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 33 OF 136 USPATFULL  
AN 2003:38352 USPATFULL  
TI 143 human secreted proteins  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Komatsoulis, George A., Silver Spring, MD, UNITED STATES  
Birse, Charles E., North Potomac, MD, UNITED STATES  
Duan, Roxanne D., Bethesda, MD, UNITED STATES  
Florence, Kimberly A., Rockville, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
PI US 2003027999 A1 20030206  
AI US 2001-986480 A1 20011108 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US12788, filed on 11 May 2000,  
UNKNOWN  
PRAI US 1999-134068P 19990513 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 29687  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 34 OF 136 USPATFULL  
AN 2003:38129 USPATFULL  
TI 29 human cancer associated proteins  
IN Roschke, Viktor, Rockville, MD, UNITED STATES  
PI US 2003027776 A1 20030206  
AI US 2001-23896 A1 20011221 (10)  
RLI Continuation-in-part of Ser. No. WO 2000-US23794, filed on 30 Aug 2000,  
UNKNOWN  
PRAI US 1999-152296P 19990903 (60)  
US 1999-158003P 19991006 (60)  
DT Utility  
FS APPLICATION



LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 23049  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 35 OF 136 USPATFULL  
AN 2003:37165 USPATFULL  
TI Neisserial **vaccine** compositions and methods  
IN Robinson, Andrew, Salisbury, UNITED KINGDOM  
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM  
Hudson, Michael John, Salisbury, UNITED KINGDOM  
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM  
Kroll, John Simon, Oxford, UNITED KINGDOM  
Langford, Paul Richard, Oxford, UNITED KINGDOM  
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA  
Cartwright, Keith, Brobury, UNITED KINGDOM  
O'Dwyer, Cliona Anne, Furbo, IRELAND  
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM  
PI US 2003026809 A1 20030206  
AI US 2001-942583 A1 20010831 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000,  
UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923  
DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 21  
ECL Exemplary Claim: 1  
DRWN 16 Drawing Page(s)  
LN.CNT 1548  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 36 OF 136 USPATFULL  
AN 2003:31119 USPATFULL  
TI Attractin-like polynucleotides, polypeptides, and antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S.  
corporation)  
PI US 2003023070 A1 20030130  
AI US 2002-84994 A1 20020301 (10)  
RLI Continuation of Ser. No. US 2001-790621, filed on 23 Feb 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US23663, filed on 29 Aug 2000,  
UNKNOWN  
PRAI US 1999-151348P 19990830 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12029  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 37 OF 136 USPATFULL  
AN 2003:30391 USPATFULL  
TI Kunitz-type protease inhibitor polynucleotides, polypeptides, and  
antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES

Ni, Jian, Germantown, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)  
PI US 2003022338 A1 20030130  
AI US 2002-125522 A1 20020419 (10)  
RLI Continuation of Ser. No. US 2001-858718, filed on 17 May 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US31917, filed on 21 Nov 2000, UNKNOWN  
PRAI US 1999-166751P 19991122 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12021  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 38 OF 136 USPATFULL  
AN 2003:29870 USPATFULL  
TI Neisserial **vaccine** compositions and methods  
IN Robinson, Andrew, Salisbury, UNITED KINGDOM  
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM  
Hudson, Michael John, Salisbury, UNITED KINGDOM  
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM  
Kroll, John Simon, Oxford, UNITED KINGDOM  
Langford, Paul Richard, Oxford, UNITED KINGDOM  
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA  
Cartwright, Keith, Brobury, UNITED KINGDOM  
O'Dwyer, Cliona Anne, Furbo, IRELAND  
PA Microbiological Research Authority (non-U.S. corporation)  
PI US 2003021812 A1 20030130  
AI US 2002-185769 A1 20020701 (10)  
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser.  
No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN  
PRAI GB 1999-4028 19990222  
GB 1999-22561 19990923  
DT Utility  
FS APPLICATION  
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE  
600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1  
DRWN 5 Drawing Page(s)  
LN.CNT 803  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 39 OF 136 USPATFULL  
AN 2003:29860 USPATFULL  
TI Lawsonia intracellularis proteins, and related methods and materials  
IN Rosey, Everett L., Preston, CT, UNITED STATES  
PI US 2003021802 A1 20030130  
AI US 2002-210296 A1 20020801 (10)  
RLI Continuation of Ser. No. US 2000-689065, filed on 12 Oct 2000, PENDING  
PRAI US 1999-160922P 19991022 (60)  
US 1999-163858P 19991105 (60)  
DT Utility  
FS APPLICATION  
LREP KOHN & ASSOCIATES, PLLC, SUITE 410, 30500 NORTHWESTERN HWY., FARMINGTON  
HILLS, MI, 48334  
CLMN Number of Claims: 20  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 3947

US 2000-251030P 20001205 (60)  
US 2000-251479P 20001206 (60)  
US 2000-256719P 20001205 (60)  
US 2000-250160P 20001201 (60)  
US 2000-251989P 20001208 (60)  
US 2000-250391P 20001201 (60)  
US 2000-254097P 20001211 (60)  
US 2000-231968P 20000912 (60)  
US 2000-226279P 20000818 (60)  
US 2000-186350P 20000302 (60)  
US 2000-184664P 20000224 (60)  
US 2000-189874P 20000316 (60)  
US 2000-198123P 20000418 (60)  
US 2000-227009P 20000823 (60)  
US 2000-235484P 20000926 (60)  
US 2000-190076P 20000317 (60)  
US 2000-209467P 20000607 (60)  
US 2000-205515P 20000519 (60)  
US 2001-259678P 20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 27547

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 41 OF 136 USPATFULL

AN 2003:13200 USPATFULL

TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof

IN Fleischmann, Robert D., Gaithersburg, MD, United States

Adams, Mark D., N. Potomac, MD, United States

White, Owen, Gaithersburg, MD, United States

Smith, Hamilton O., Towson, MD, United States

Venter, J. Craig, Potomac, MD, United States

PA Human Genome Science, Inc., Rockville, MD, United States (U.S. corporation)

Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)

PI US 6506581 B1 20030114

AI US 2000-557884 20000425 (9)

RLI Continuation of Ser. No. US 1995-476102, filed on 7 Jun 1995

Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Brusca, John S.

LREP Human Genome Sciences, Inc.

CLMN Number of Claims: 51

ECL Exemplary Claim: 1

DRWN 47 Drawing Figure(s); 47 Drawing Page(s)

LN.CNT 4510

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 42 OF 136 USPATFULL

AN 2002:344432 USPATFULL

TI ANTIGEN LIBRARY IMMUNIZATION

IN PUNNONEN, JUHA, PALO ALTO, CA, UNITED STATES

BASS, STEVEN H., HILLSBOROUGH, CA, UNITED STATES

WHALEN, ROBERT GERALD, PARIS, FRANCE

HOWARD, RUSSELL, LOS ALTOS HILLS, CA, UNITED STATES

STEMMER, WILLEM P. C., LOS GATOS, CA, UNITED STATES

PI US 2002198162 A1 20021226  
US 6541011 B2 20030401  
AI US 1999-247890 A1 19990210 (9)  
PRAI US 1998-74294P 19980211 (60)  
US 1998-105509P 19981023 (60)  
DT Utility  
FS APPLICATION  
LREP MAXYGEN, INC., 515 GALVESTON DRIVE, RED WOOD CITY, CA, 94063  
CLMN Number of Claims: 53  
ECL Exemplary Claim: 1  
DRWN 21 Drawing Page(s)  
LN.CNT 5366  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 43 OF 136 USPATFULL  
AN 2002:344413 USPATFULL  
TI B7-like polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Chen, Lieping, Rochester, MN, UNITED STATES  
Baker, Kevin P., Darnestown, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PI US 2002198143 A1 20021226  
AI US 2001-790622 A1 20010223 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US23792, filed on 30 Aug 2000,  
UNKNOWN  
PRAI US 1999-152317P 19990903 (60)  
US 2000-200346P 20000428 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN 15 Drawing Page(s)  
LN.CNT 12424  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 44 OF 136 USPATFULL  
AN 2002:343975 USPATFULL  
TI Serine protease polynucleotides, polypeptides, and antibodies  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S.  
corporation)  
PI US 2002197701 A1 20021226  
AI US 2002-67761 A1 20020208 (10)  
RLI Continuation of Ser. No. US 2001-804156, filed on 13 Mar 2001, PENDING  
PRAI US 2000-189025P 20000314 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13077  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 45 OF 136 USPATFULL  
AN 2002:337390 USPATFULL  
TI Human polynucleotides, polypeptides, and antibodies  
IN Moore, Paul A., Germantown, MD, UNITED STATES  
Coleman, Timothy A., Gaithersburg, MD, UNITED STATES  
Gentz, Reiner L., Rockville, MD, UNITED STATES  
Dillon, Patrick J., Carlsbad, CA, UNITED STATES

Ni, Jian, Germantown, MD, UNITED STATES  
Li, Yi, Sunnyvale, CA, UNITED STATES  
Endress, Gregory A., Florence, MA, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
PI US 2002192749 A1 20021219  
AI US 2001-969384 A1 20011003 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US10542, filed on 2 Apr 2001,  
UNKNOWN  
PRAI US 2000-194118P 20000403 (60)  
US 2000-236384P 20000929 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13925  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 46 OF 136 USPATFULL  
AN 2002:323332 USPATFULL  
TI 26 human secreted proteins  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Birse, Charles E., North Potomac, MD, UNITED STATES  
Duan, Roxanne D., Bethesda, MD, UNITED STATES  
Soppet, Daniel R., Laytonsville, MD, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
LaFleur, David W., Washington, DC, UNITED STATES  
Olsen, Henrik, Gaithersburg, MD, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Florence, Kimberly A., Rockville, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Young, Paul, Gaithersburg, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2002183503 A1 20021205  
AI US 2002-42141 A1 20020111 (10)  
RLI Continuation of Ser. No. US 2000-726643, filed on 1 Dec 2000, PENDING  
Continuation-in-part of Ser. No. WO 2000-US15187, filed on 2 Jun 2000,  
UNKNOWN  
PRAI US 1999-137725P 19990607 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20367  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 47 OF 136 USPATFULL  
AN 2002:322538 USPATFULL  
TI ADAM polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Hastings, Gregg A., Westlake Village, CA, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Wei, Ping, Brookeville, MD, UNITED STATES  
PI US 2002182702 A1 20021205  
AI US 2001-955504 A1 20010919 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US14308, filed on 25 May 2000,  
UNKNOWN Continuation-in-part of Ser. No. US 2000-712907, filed on 16 Nov  
2000, PENDING  
PRAI US 2000-234222P 20000921 (60)

US 1999-136388P 19990527 (60)  
US  
US  
US 1999-136388P 19990527 (60)  
US 1999-142930P 19990709 (60)  
US 2000-178717P 20000128 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Page(s)  
LN.CNT 13921  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 48 OF 136 USPATFULL  
AN 2002:308509 USPATFULL  
TI ADAM polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Hastings, Gregg A., Westlake Village, CA, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Wei, Ping, Brookeville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES (U.S.  
corporation)  
PI US 2002173640 A1 20021121  
AI US 2002-125452 A1 20020419 (10)  
RLI Continuation of Ser. No. US 2001-955504, filed on 19 Sep 2001, PENDING  
Continuation of Ser. No. US 2000-712907, filed on 16 Nov 2000, PENDING  
Continuation of Ser. No. WO 2000-US14308, filed on 25 May 2000, UNKNOWN  
PRAI US 2000-234222P 20000921 (60)  
US 1999-136388P 19990527 (60)  
US 1999-142930P 19990709 (60)  
US 2000-178717P 20000128 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Page(s)  
LN.CNT 13925  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 49 OF 136 USPATFULL  
AN 2002:308333 USPATFULL  
TI Protein tyrosine kinase receptor polynucleotides, polypeptides, and  
antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PI US 2002173458 A1 20021121  
AI US 2001-836392 A1 20010418 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US28066, filed on 12 Oct 2000,  
UNKNOWN  
PRAI US 1999-159542P 19991015 (60)  
US 1999-165914P 19991117 (60)  
US 2000-189027P 20000314 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings

LN.CNT 13395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 50 OF 136 USPATFULL

AN 2002:307870 USPATFULL

TI 28 human secreted proteins

IN Ruben, Steven M., Olney, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Li, Yi, Sunnyvale, CA, UNITED STATES

Zeng, Zhizhen, Lansdale, PA, UNITED STATES

Kyaw, Hla, Frederick, MD, UNITED STATES

Fischer, Carrie L., Burke, VA, UNITED STATES

Li, Haodong, Gaithersburg, MD, UNITED STATES

Soppet, Daniel R., Centreville, VA, UNITED STATES

Gentz, Reiner L., Rockville, MD, UNITED STATES

Wei, Ying-Fei, Berkeley, CA, UNITED STATES

Moore, Paul A., Germantown, MD, UNITED STATES

Young, Paul E., Gaithersburg, MD, UNITED STATES

Greene, John M., Gaithersburg, MD, UNITED STATES

Ferrie, Ann M., Tewksbury, MA, UNITED STATES

PI US 2002172994 A1 20021121

AI US 2001-852797 A1 20010511 (9)

RLI Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998,  
PENDING Continuation-in-part of Ser. No. WO 1998-US4858, filed on 12 Mar  
1998, UNKNOWN

PRAI US 2001-265583P 20010202 (60)

US 1997-40762P 19970314 (60)

US 1997-40710P 19970314 (60)

US 1997-50934P 19970530 (60)

US 1997-48100P 19970530 (60)

US 1997-48357P 19970530 (60)

US 1997-48189P 19970530 (60)

US 1997-57765P 19970905 (60)

US 1997-48970P 19970606 (60)

US 1997-68368P 19971219 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 17794

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 51 OF 136 USPATFULL

AN 2002:301167 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002168711 A1 20021114

AI US 2001-764868 A1 20010117 (9)

PRAI US 2000-179065P 20000131 (60)

US 2000-180628P 20000204 (60)

US 2000-214886P 20000628 (60)

US 2000-217487P 20000711 (60)

US 2000-225758P 20000814 (60)

US 2000-220963P 20000726 (60)

US 2000-217496P 20000711 (60)

US 2000-225447P 20000814 (60)

US 2000-218290P 20000714 (60)

US 2000-225757P 20000814 (60)

US 2000-226868P 20000822 (60)

US 2000-216647P 20000707 (60)

US 2000-225267P	20000814 (60)
US 2000-216880P	20000707 (60)
US 2000-225270P	20000814 (60)
US 2000-251869P	20001208 (60)
US 2000-235834P	20000927 (60)
US 2000-234274P	20000921 (60)
US 2000-234223P	20000921 (60)
US 2000-228924P	20000830 (60)
US 2000-224518P	20000814 (60)
US 2000-236369P	20000929 (60)
US 2000-224519P	20000814 (60)
US 2000-220964P	20000726 (60)
US 2000-241809P	20001020 (60)
US 2000-249299P	20001117 (60)
US 2000-236327P	20000929 (60)
US 2000-241785P	20001020 (60)
US 2000-244617P	20001101 (60)
US 2000-225268P	20000814 (60)
US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 31967

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 52 OF 136 USPATFULL

AN 2002:295334 USPATFULL

TI Steroid hormone receptor polynucleotides, polypeptides, and antibodies

IN Ni, Jian, Germantown, MD, UNITED STATES

Shi, Yanggu, Gaithersburg, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)

PI US 2002165384 A1 20021107

AI US 2002-103511 A1 20020322 (10)

RLI Continuation of Ser. No. US 2001-805204, filed on 14 Mar 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US24517, filed on 7 Sep 2000,  
UNKNOWN

PRAI US 2000-189032P 20000314 (60)

US 1999-152932P 19990909 (60)

DT Utility

FS APPLICATION



LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11571  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 53 OF 136 USPATFULL  
AN 2002:295092 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Birse, Charles E., North Potomac, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S.  
corporation)  
PI US 2002165137 A1 20021107  
AI US 2001-860670 A1 20010521 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US1346, filed on 17 Jan 2001,  
UNKNOWN Continuation-in-part of Ser. No. US 2001-764859, filed on 17 Jan  
2001, PENDING  
PRAI US 2000-205515P 20000519 (60)  
US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-216880P 20000707 (60)  
US 2000-234997P 20000925 (60)  
US 2000-229343P 20000901 (60)  
US 2000-236367P 20000929 (60)  
US 2000-239937P 20001013 (60)  
US 2000-249210P 20001117 (60)  
US 2000-249211P 20001117 (60)  
US 2000-249214P 20001117 (60)  
US 2000-231243P 20000908 (60)  
US 2000-246477P 20001108 (60)  
US 2000-246528P 20001108 (60)  
US 2000-246525P 20001108 (60)  
US 2000-246476P 20001108 (60)  
US 2000-246526P 20001108 (60)  
US 2000-249265P 20001117 (60)  
US 2000-230437P 20000906 (60)  
US 2000-251990P 20001208 (60)  
US 2000-251988P 20001205 (60)  
US 2000-251030P 20001205 (60)  
US 2000-251479P 20001206 (60)  
US 2000-256719P 20001205 (60)  
US 2000-250160P 20001201 (60)  
US 2000-251989P 20001208 (60)  
US 2000-250391P 20001201 (60)  
US 2000-254097P 20001211 (60)  
US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)

US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)

DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20253  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 54 OF 136 USPATFULL  
AN 2002:294651 USPATFULL  
TI Methods and compositions for treating and preventing infection using  
human interferon regulatory factor 3  
IN Moore, Paul A., Germantown, MD, UNITED STATES  
Pith-Rowe, Paula, Baltimore, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S.  
corporation)  
PI US 2002164694 A1 20021107  
AI US 2001-975253 A1 20011012 (9)  
RLI Continuation-in-part of Ser. No. US 1996-705771, filed on 30 Aug 1996,  
GRANTED, Pat. No. US 6054289  
PRAI US 2000-239936P 20001013 (60)  
US 1995-2993P 19950830 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 36  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Page(s)  
LN.CNT 8370  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 55 OF 136 USPATFULL  
AN 2002:294650 USPATFULL  
TI TM4SF receptor polynucleotides, polypeptides, and antibodies  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, 20850 (U.S. corporation)  
PI US 2002164693 A1 20021107  
AI US 2001-972970 A1 20011010 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US11130, filed on 5 Apr 2001,  
UNKNOWN  
PRAI US 2000-195336P 20000410 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11940  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 56 OF 136 USPATFULL  
AN 2002:294649 USPATFULL  
TI Immune system-related polynucleotides, polypeptides, and antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Hilbert, David, Bethesda, MD, UNITED STATES  
Kenny, Joseph J., Damascus, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES

Choi, Gil H., Rockville, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Gruber, Joachim R., Dallas, TX, UNITED STATES  
Endress, Gregory A., Florence, MA, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002164692 A1 20021107  
AI US 2001-949842 A1 20010912 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US7260, filed on 7 Mar 2001,  
UNKNOWN  
PRAI US 2000-187873P 20000308 (60)  
US 2000-224367P 20000811 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13952  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 57 OF 136 USPATFULL  
AN 2002:294642 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002164685 A1 20021107  
AI US 2001-764857 A1 20010117 (9)

PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)  
US 2000-236327P 20000929 (60)  
US 2000-241785P 20001020 (60)  
US 2000-244617P 20001101 (60)  
US 2000-225268P 20000814 (60)  
US 2000-236368P 20000929 (60)  
US 2000-251856P 20001208 (60)  
US 2000-251868P 20001208 (60)  
US 2000-229344P 20000901 (60)  
US 2000-234997P 20000925 (60)

US 2000-229343P 20000901 (60)  
 US 2000-229345P 20000901 (60)  
 US 2000-229287P 20000901 (60)  
 US 2000-229513P 20000905 (60)  
 US 2000-231413P 20000908 (60)  
 US 2000-229509P 20000905 (60)  
 US 2000-236367P 20000929 (60)  
 US 2000-237039P 20001002 (60)  
 US 2000-237038P 20001002 (60)  
 US 2000-236370P 20000929 (60)  
 US 2000-236802P 20001002 (60)  
 US 2000-237037P 20001002 (60)  
 US 2000-237040P 20001002 (60)  
 US 2000-240960P 20001020 (60)  
 US 2000-239935P 20001013 (60)

DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 16891  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 58 OF 136 USPATFULL  
 AN 2002:288336 USPATFULL  
 TI Nucleic acids, proteins, and antibodies  
 IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 Barash, Steven C., Rockville, MD, UNITED STATES  
 PI US 2002161208 A1 20021031  
 AI US 2001-764884 A1 20010117 (9)  
 PRAI US 2000-179065P 20000131 (60)

DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 18396  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 59 OF 136 USPATFULL  
 AN 2002:288320 USPATFULL  
 TI Helicobacter pylori live **vaccine**  
 IN Meyer, Thomas F., Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Haas, Rainer, Munchen, GERMANY, FEDERAL REPUBLIC OF  
 Zhengxin, Yan, Tubingen, GERMANY, FEDERAL REPUBLIC OF  
 Gomez-Duarte, Oscar, Tubingen, GERMANY, FEDERAL REPUBLIC OF  
 Lucas, Bernadette, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Maurer, Jochen, Stadtbergen, GERMANY, FEDERAL REPUBLIC OF  
 Gibbs, Carol Patrice, Augsburg, GERMANY, FEDERAL REPUBLIC OF  
 Lattemann, Claus Tobias, Neusaess, GERMANY, FEDERAL REPUBLIC OF  
 PI US 2002161192 A1 20021031  
 AI US 2001-976297 A1 20011015 (9)  
 RLI Continuation-in-part of Ser. No. US 1999-284233, filed on 28 Jul 1999,  
 PENDING A 371 of International Ser. No. WO 1997-EP4744, filed on 1 Sep  
 1997, UNKNOWN  
 PRAI EP 1996-116337 19961011  
 DT Utility  
 FS APPLICATION  
 LREP ARENT FOX KINTNER PLOTKIN & KAHN, 1050 CONNECTICUT AVENUE, N.W., SUITE  
 400, WASHINGTON, DC, 20036  
 CLMN Number of Claims: 16

ECL Exemplary Claim: 1  
DRWN 16 Drawing Page(s)  
LN.CNT 1920  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 60 OF 136 USPATFULL  
AN 2002:287630 USPATFULL  
TI Serine/threonine phosphatase polynucleotides, polypeptides, and antibodies  
IN Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002160493 A1 20021031  
AI US 2001-941831 A1 20010830 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US6256, filed on 28 Feb 2001, UNKNOWN  
PRAI US 2000-186350P 20000302 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 14729  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 61 OF 136 USPATFULL  
AN 2002:287628 USPATFULL  
TI Human Serpin polynucleotides, polypeptides, and antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002160491 A1 20021031  
AI US 2001-912628 A1 20010726 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US5082, filed on 29 Feb 2000, UNKNOWN  
Continuation-in-part of Ser. No. WO 2001-US2484, filed on 26 Jan 2001, UNKNOWN  
PRAI US 2000-178769P 20000128 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12380  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 62 OF 136 USPATFULL  
AN 2002:283365 USPATFULL  
TI Invasion associated genes from **Neisseria meningitidis** serogroup B  
IN Ribot, Efrain M., Atlanta, GA, United States  
Stephens, David S., Stone Mountain, GA, United States  
Raymond, Nigel, Wellington, NEW ZEALAND  
Quinn, Frederick D., Avondale Estates, GA, United States  
PA Centers for Disease Control and Prevention, as represented by the Secretary, Department of Health and Human Services, Atlanta, GA, United States (U.S. government)  
PI US 6472518 B1 20021029  
WO 9817805 19980430  
AI US 1999-284926 19990817 (9)  
WO 1997-US19424 19971024  
19990817 PCT 371 date  
PRAI US 1996-30432P 19961024 (60)  
DT Utility

FS GRANTED  
EXNAM Primary Examiner: Graser, Jennifer E.  
LREP Needle & Roseberg, P.C.  
CLMN Number of Claims: 7  
ECL Exemplary Claim: 1  
DRWN 27 Drawing Figure(s); 27 Drawing Page(s)  
LN.CNT 3137  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 63 OF 136 USPATFULL  
AN 2002:283360 USPATFULL  
TI Keratinocyte derived interferon  
IN LaFleur, David W., Washington, DC, United States  
Moore, Paul A., Germantown, MD, United States  
Ruben, Steven M., Olney, MD, United States  
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)  
PI US 6472512 B1 20021029  
US 2002187950 A1 20021212  
AI US 2001-908594 20010720 (9)  
RLI Continuation-in-part of Ser. No. US 2000-487792, filed on 20 Jan 2000  
Continuation-in-part of Ser. No. WO 2000-US1239, filed on 20 Jan 2000  
Continuation-in-part of Ser. No. US 1999-358587, filed on 21 Jul 1999  
Continuation-in-part of Ser. No. WO 1999-US16424, filed on 21 Jul 1999  
Continuation-in-part of Ser. No. US 2001-358587, filed on 24 May 2001, now abandoned  
Continuation-in-part of Ser. No. WO 1998-US9916424, filed on 21 Jul 1998, now abandoned  
PRAI US 2001-292934P 20010524 (60)  
US 2000-219621P 20000721 (60)  
US 1998-93643P 19980721 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Kunz, Gary L.; Assistant Examiner: Seharaseyon, Jegatheesan  
LREP Human Genome Sciences, Inc.  
CLMN Number of Claims: 33  
ECL Exemplary Claim: 1  
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)  
LN.CNT 14148  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 64 OF 136 USPATFULL  
AN 2002:280103 USPATFULL  
TI Calcium channel polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2002155539 A1 20021024  
AI US 2002-50786 A1 20020118 (10)  
RLI Continuation of Ser. No. US 2001-774028, filed on 31 Jan 2001, PENDING  
Continuation-in-part of Ser. No. WO 2000-US20392, filed on 27 Jul 2000, UNKNOWN  
PRAI US 1999-145958P 19990728 (60)  
US 1999-149446P 19990818 (60)  
US 2000-189064P 20000314 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11310  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 65 OF 136 USPATFULL  
 AN 2002:273550 USPATFULL  
 TI Nucleic acids, proteins and antibodies  
 IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 PI US 2002151681 A1 20021017  
 AI US 2001-925300 A1 20010810 (9)  
 RLI Continuation-in-part of Ser. No. WO 2000-US5988, filed on 8 Mar 2000,  
 UNKNOWN  
 PRAI US 1999-124270P 19990312 (60)  
 DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 23  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 29771  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 66 OF 136 USPATFULL  
 AN 2002:273351 USPATFULL  
 TI Nucleic acids, proteins, and antibodies  
 IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 Barash, Steven C., Rockville, MD, UNITED STATES  
 PI US 2002151479 A1 20021017  
 AI US 2001-764873 A1 20010117 (9)  
 PRAI US 2000-179065P 20000131 (60)  
 US 2000-180628P 20000204 (60)  
 US 2000-214886P 20000628 (60)  
 US 2000-217487P 20000711 (60)  
 US 2000-225758P 20000814 (60)  
 US 2000-220963P 20000726 (60)  
 US 2000-217496P 20000711 (60)  
 US 2000-225447P 20000814 (60)  
 US 2000-218290P 20000714 (60)  
 US 2000-225757P 20000814 (60)  
 US 2000-226868P 20000822 (60)  
 US 2000-216647P 20000707 (60)  
 US 2000-225267P 20000814 (60)  
 US 2000-216880P 20000707 (60)  
 US 2000-225270P 20000814 (60)  
 US 2000-251869P 20001208 (60)  
 US 2000-235834P 20000927 (60)  
 US 2000-234274P 20000921 (60)  
 US 2000-234223P 20000921 (60)  
 US 2000-228924P 20000830 (60)  
 US 2000-224518P 20000814 (60)  
 US 2000-236369P 20000929 (60)  
 US 2000-224519P 20000814 (60)  
 US 2000-220964P 20000726 (60)  
 US 2000-241809P 20001020 (60)  
 US 2000-249299P 20001117 (60)  
 US 2000-236327P 20000929 (60)  
 US 2000-241785P 20001020 (60)  
 US 2000-244617P 20001101 (60)  
 US 2000-225268P 20000814 (60)  
 US 2000-236368P 20000929 (60)  
 US 2000-251856P 20001208 (60)  
 US 2000-251868P 20001208 (60)  
 US 2000-229344P 20000901 (60)  
 US 2000-234997P 20000925 (60)  
 US 2000-229343P 20000901 (60)

US 2000-229345P 20000901 (60)  
 US 2000-229287P 20000901 (60)  
 US 2000-229513P 20000905 (60)  
 US 2000-231413P 20000908 (60)  
 US 2000-229509P 20000905 (60)  
 US 2000-236367P 20000929 (60)  
 US 2000-237039P 20001002 (60)  
 US 2000-237038P 20001002 (60)  
 US 2000-236370P 20000929 (60)  
 US 2000-236802P 20001002 (60)  
 US 2000-237037P 20001002 (60)  
 US 2000-237040P 20001002 (60)  
 US 2000-240960P 20001020 (60)  
 US 2000-239935P 20001013 (60)

DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 17167  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 67 OF 136 USPATFULL  
 AN 2002:272888 USPATFULL  
 TI Human polynucleotides, polypeptides, and antibodies  
 IN Ni, Jian, Germantown, MD, UNITED STATES  
 Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
 Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)

PI US 2002151009 A1 20021017  
 AI US 2001-939825 A1 20010828 (9)  
 RLI Continuation-in-part of Ser. No. WO 2001-US5498, filed on 22 Feb 2001, UNKNOWN  
 PRAI US 2000-184664P 20000224 (60)  
 US 2000-189874P 20000316 (60)

DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 22  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 14831  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 68 OF 136 USPATFULL  
 AN 2002:272419 USPATFULL  
 TI Tumor necrosis factor-gamma  
 IN Yu, Guo-Liang, Berkeley, CA, UNITED STATES  
 Ni, Jian, Germantown, MD, UNITED STATES  
 Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Zhang, Jun, Bethesda, MD, UNITED STATES  
 PI US 2002150534 A1 20021017  
 AI US 2001-899059 A1 20010706 (9)  
 RLI Continuation-in-part of Ser. No. WO 2000-US11689, filed on 28 Apr 2000, UNKNOWN Continuation-in-part of Ser. No. US 1999-246129, filed on 8 Feb 1999, PENDING Continuation-in-part of Ser. No. US 1998-131237, filed on 7 Aug 1998, PENDING Continuation-in-part of Ser. No. US 1998-5020, filed on 9 Jan 1998, ABANDONED Continuation-in-part of Ser. No. US 1995-461246, filed on 5 Jun 1995, ABANDONED Continuation-in-part of Ser. No. WO 1994-US12880, filed on 7 Nov 1994, UNKNOWN  
 PRAI US 2001-278449P 20010326 (60)



US 2000-216879P 20000707 (60)  
 US 2000-180908P 20000208 (60)  
 US 1999-134067P 19990513 (60)  
 US 1999-132227P 19990503 (60)  
 US 1999-131963P 19990430 (60)  
 US 1998-74047P 19980209 (60)  
 DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 49  
 ECL Exemplary Claim: 1  
 DRWN 33 Drawing Page(s)  
 LN.CNT 12881  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 69 OF 136 USPATFULL  
 AN 2002:243562 USPATFULL  
 TI Nucleic acids, proteins, and antibodies  
 IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 Barash, Steven C., Rockville, MD, UNITED STATES  
 PI US 2002132753 A1 20020919  
 AI US 2001-764864 A1 20010117 (9)  
 PRAI US 2000-179065P 20000131 (60)  
 US 2000-180628P 20000204 (60)  
 US 2000-214886P 20000628 (60)  
 US 2000-217487P 20000711 (60)  
 US 2000-225758P 20000814 (60)  
 US 2000-220963P 20000726 (60)  
 US 2000-217496P 20000711 (60)  
 US 2000-225447P 20000814 (60)  
 US 2000-218290P 20000714 (60)  
 US 2000-225757P 20000814 (60)  
 US 2000-226868P 20000822 (60)  
 US 2000-216647P 20000707 (60)  
 US 2000-225267P 20000814 (60)  
 US 2000-216880P 20000707 (60)  
 US 2000-225270P 20000814 (60)  
 US 2000-251869P 20001208 (60)  
 US 2000-235834P 20000927 (60)  
 US 2000-234274P 20000921 (60)  
 US 2000-234223P 20000921 (60)  
 US 2000-228924P 20000830 (60)  
 US 2000-224518P 20000814 (60)  
 US 2000-236369P 20000929 (60)  
 US 2000-224519P 20000814 (60)  
 US 2000-220964P 20000726 (60)  
 US 2000-241809P 20001020 (60)  
 US 2000-249299P 20001117 (60)  
 US 2000-236327P 20000929 (60)  
 US 2000-241785P 20001020 (60)  
 US 2000-244617P 20001101 (60)  
 US 2000-225268P 20000814 (60)  
 US 2000-236368P 20000929 (60)  
 US 2000-251856P 20001208 (60)  
 US 2000-251868P 20001208 (60)  
 US 2000-229344P 20000901 (60)  
 US 2000-234997P 20000925 (60)  
 US 2000-229343P 20000901 (60)  
 US 2000-229345P 20000901 (60)  
 US 2000-229287P 20000901 (60)  
 US 2000-229513P 20000905 (60)  
 US 2000-231413P 20000908 (60)  
 US 2000-229509P 20000905 (60)

US 2000-236367P 20000929 (60)  
US 2000-237039P 20001002 (60)  
US 2000-237038P 20001002 (60)  
US 2000-236370P 20000929 (60)  
US 2000-236802P 20001002 (60)  
US 2000-237037P 20001002 (60)  
US 2000-237040P 20001002 (60)  
US 2000-240960P 20001020 (60)  
US 2000-239935P 20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 37784

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 70 OF 136 USPATFULL

AN 2002:243122 USPATFULL

TI Novel constructs and their use in metabolic pathway engineering

IN Liu, Lu, Redwood City, CA, UNITED STATES

Zhu, Genhai, San Jose, CA, UNITED STATES

PA MPEP @ Page 300-M (U.S. corporation)

PI US 2002132308 A1 20020919

AI US 2001-932254 A1 20010816 (9)

PRAI US 2000-227719P 20000824 (60)

DT Utility

FS APPLICATION

LREP QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C., P O BOX 458, ALAMEDA, CA, 94501

CLMN Number of Claims: 104

ECL Exemplary Claim: 1

DRWN 10 Drawing Page(s)

LN.CNT 2894

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 71 OF 136 USPATFULL

AN 2002:221965 USPATFULL

TI Steroid hormone receptor polynucleotides, polypeptides, and antibodies

IN Ni, Jian, Germantown, MD, UNITED STATES

Shi, Yanggu, Gaithersburg, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002120110 A1 20020829

AI US 2001-805204 A1 20010314 (9)

RLI Continuation-in-part of Ser. No. WO 2000-US24517, filed on 7 Sep 2000, UNKNOWN

PRAI US 2000-189032P 20000314 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 22

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 11573

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 72 OF 136 USPATFULL

AN 2002:221958 USPATFULL

TI 17 human secreted proteins

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Komatsoulis, George A., Silver Spring, MD, UNITED STATES

Baker, Kevin P., Darnestown, MD, UNITED STATES

Birse, Charles E., North Potomac, MD, UNITED STATES

Soppet, Daniel R., Centreville, VA, UNITED STATES  
Olsen, Henrik S., Gaithersburg, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Wei, Ping, Brookeville, MD, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Duan, D. Roxanne, Bethesda, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Choi, Gil H., Rockville, MD, UNITED STATES  
Fiscella, Michele, Bethesda, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002120103 A1 20020829  
AI US 2001-915582 A1 20010727 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US1431, filed on 17 Jan 2001,  
UNKNOWN  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-231968P 20000912 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20680  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 73 OF 136 USPATFULL  
AN 2002:221379 USPATFULL  
TI Trefoil domain-containing polynucleotides, polypeptides, and antibodies  
IN Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002119519 A1 20020829  
AI US 2001-891171 A1 20010626 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US34920, filed on 22 Dec 2000,  
UNKNOWN  
PRAI US 1999-171618P 19991223 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12171  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 74 OF 136 USPATFULL  
AN 2002:198680 USPATFULL  
TI Extracellular matrix polynucleotides, polypeptides, and antibodies  
IN Fiscella, Michele, Bethesda, MD, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002106780 A1 20020808  
AI US 2001-978249 A1 20011017 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US11643, filed on 11 Apr 2001,  
UNKNOWN  
PRAI US 2000-198123P 20000418 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22

ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13488  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 75 OF 136 USPATFULL  
AN 2002:198631 USPATFULL  
TI Bcl-2-like polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Duan, D. Roxanne, Bethesda, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PI US 2002106731 A1 20020808  
AI US 2001-912599 A1 20010726 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US3080, filed on 31 Jan 2001,  
UNKNOWN  
PRAI US 2000-179487P 20000201 (60)  
US 2000-180697P 20000207 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12354  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 76 OF 136 USPATFULL  
AN 2002:192264 USPATFULL  
TI Staphylococcus aureus polynucleotides and polypeptides  
IN Choi, Gil H., Rockville, MD, UNITED STATES  
PI US 2002103338 A1 20020801  
AI US 2001-925637 A1 20010810 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US23773, filed on 31 Aug 2000,  
UNKNOWN Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan  
1997, PENDING Continuation-in-part of Ser. No. US 1997-956171, filed on  
20 Oct 1997, PENDING  
PRAI US 1999-151933P 19990901 (60)  
US 1996-9861P 19960105 (60)  
US 1996-9861P 19960105 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 96  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 9945  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 77 OF 136 USPATFULL  
AN 2002:191573 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002102638 A1 20020801  
AI US 2001-764846 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)

US 2000-218290P	20000714 (60)
US 2000-225757P	20000814 (60)
US 2000-226868P	20000822 (60)
US 2000-216647P	20000707 (60)
US 2000-225267P	20000814 (60)
US 2000-216880P	20000707 (60)
US 2000-225270P	20000814 (60)
US 2000-251869P	20001208 (60)
US 2000-235834P	20000927 (60)
US 2000-234274P	20000921 (60)
US 2000-234223P	20000921 (60)
US 2000-228924P	20000830 (60)
US 2000-224518P	20000814 (60)
US 2000-236369P	20000929 (60)
US 2000-224519P	20000814 (60)
US 2000-220964P	20000726 (60)
US 2000-241809P	20001020 (60)
US 2000-249299P	20001117 (60)
US 2000-236327P	20000929 (60)
US 2000-241785P	20001020 (60)
US 2000-244617P	20001101 (60)
US 2000-225268P	20000814 (60)
US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 22814

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 78 OF 136 USPATFULL

AN 2002:185613 USPATFULL

TI Human tumor, necrosis factor receptor-like proteins TR11, TR11SV1 and TR11SV2

IN Ni, Jian, Germantown, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)

PI US 2002098525 A1 20020725

AI US 2001-915593 A1 20010727 (9)

RLI Continuation-in-part of Ser. No. US 2000-512363, filed on 23 Feb 2000,  
PENDING Continuation-in-part of Ser. No. US 1998-176200, filed on 21 Oct  
1998, PENDING

PRAI US 2000-221577P 20000728 (60)

US 1999-144076P 19990716 (60)  
US 1999-134172P 19990513 (60)  
US 1999-121648P 19990224 (60)  
US 1997-63212P 19971021 (60)

DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN 11 Drawing Page(s)  
LN.CNT 12618  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 79 OF 136 USPATFULL  
AN 2002:179165 USPATFULL  
TI Plasminogen-like polynucleotides, polypeptides, and antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002094955 A1 20020718  
AI US 2001-832197 A1 20010411 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US27253, filed on 4 Oct 2000,  
UNKNOWN  
PRAI US 1999-158044P 19991007 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11038  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 80 OF 136 USPATFULL  
AN 2002:171946 USPATFULL  
TI Kunitz-type protease inhibitor polynucleotides, polypeptides, and  
antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PI US 2002090695 A1 20020711  
AI US 2001-858718 A1 20010517 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US31917, filed on 21 Nov 2000,  
UNKNOWN  
PRAI US 1999-166751P 19991122 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12006  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 81 OF 136 USPATFULL  
AN 2002:171925 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002090674 A1 20020711  
AI US 2001-764903 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
DT Utility  
FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 21376  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 82 OF 136 USPATFULL  
AN 2002:171924 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002090673 A1 20020711  
AI US 2001-764898 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)  
US 2000-236327P 20000929 (60)  
US 2000-241785P 20001020 (60)  
US 2000-244617P 20001101 (60)  
US 2000-225268P 20000814 (60)  
US 2000-236368P 20000929 (60)  
US 2000-251856P 20001208 (60)  
US 2000-251868P 20001208 (60)  
US 2000-229344P 20000901 (60)  
US 2000-234997P 20000925 (60)  
US 2000-229343P 20000901 (60)  
US 2000-229345P 20000901 (60)  
US 2000-229287P 20000901 (60)  
US 2000-229513P 20000905 (60)  
US 2000-231413P 20000908 (60)  
US 2000-229509P 20000905 (60)  
US 2000-236367P 20000929 (60)  
US 2000-237039P 20001002 (60)  
US 2000-237038P 20001002 (60)  
US 2000-236370P 20000929 (60)  
US 2000-236802P 20001002 (60)  
US 2000-237037P 20001002 (60)  
US 2000-237040P 20001002 (60)  
US 2000-240960P 20001020 (60)

US 2000-239935P 20001013 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 25258  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 83 OF 136 USPATFULL  
AN 2002:171923 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002090672 A1 20020711  
AI US 2001-764853 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)  
US 2000-236327P 20000929 (60)  
US 2000-241785P 20001020 (60)  
US 2000-244617P 20001101 (60)  
US 2000-225268P 20000814 (60)  
US 2000-236368P 20000929 (60)  
US 2000-251856P 20001208 (60)  
US 2000-251868P 20001208 (60)  
US 2000-229344P 20000901 (60)  
US 2000-234997P 20000925 (60)  
US 2000-229343P 20000901 (60)  
US 2000-229345P 20000901 (60)  
US 2000-229287P 20000901 (60)  
US 2000-229513P 20000905 (60)  
US 2000-231413P 20000908 (60)  
US 2000-229509P 20000905 (60)  
US 2000-236367P 20000929 (60)  
US 2000-237039P 20001002 (60)  
US 2000-237038P 20001002 (60)  
US 2000-236370P 20000929 (60)  
US 2000-236802P 20001002 (60)



US 2000-237037P 20001002 (60)  
US 2000-237040P 20001002 (60)  
US 2000-240960P 20001020 (60)  
US 2000-239935P 20001013 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 35378  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 84 OF 136 USPATFULL  
AN 2002:171629 USPATFULL  
TI METHODS OF PRODUCING AND USING VIRULENCE ATTENUATED POXR MUTANT BACTERIA  
IN KANIGA, KONE, ST. LOUIS, MO, UNITED STATES  
SUNDARAM, PREETI, CHESTERFIELD, MO, UNITED STATES  
PI US 2002090376 A1 20020711  
US 6537558 B2 20030325  
AI US 1997-829402 A1 19970331 (8)  
DT Utility  
FS APPLICATION  
LREP THOMPSON COBURN, LLP, ONE FIRSTAR PLAZA, SUITE 3500, ST LOUIS, MO, 63101  
CLMN Number of Claims: 42  
ECL Exemplary Claim: 1  
DRWN 7 Drawing Page(s)  
LN.CNT 1661  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 85 OF 136 USPATFULL  
AN 2002:165194 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002086823 A1 20020704  
AI US 2001-764889 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 17471  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 86 OF 136 USPATFULL  
AN 2002:165193 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002086822 A1 20020704  
AI US 2001-764886 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)

US 2000-218290P	20000714 (60)
US 2000-225757P	20000814 (60)
US 2000-226868P	20000822 (60)
US 2000-216647P	20000707 (60)
US 2000-225267P	20000814 (60)
US 2000-216880P	20000707 (60)
US 2000-225270P	20000814 (60)
US 2000-251869P	20001208 (60)
US 2000-235834P	20000927 (60)
US 2000-234274P	20000921 (60)
US 2000-234223P	20000921 (60)
US 2000-228924P	20000830 (60)
US 2000-224518P	20000814 (60)
US 2000-236369P	20000929 (60)
US 2000-224519P	20000814 (60)
US 2000-220964P	20000726 (60)
US 2000-241809P	20001020 (60)
US 2000-249299P	20001117 (60)
US 2000-236327P	20000929 (60)
US 2000-241785P	20001020 (60)
US 2000-244617P	20001101 (60)
US 2000-225268P	20000814 (60)
US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 20931

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 87 OF 136 USPATFULL

AN 2002:165192 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002086821 A1 20020704

AI US 2001-764881 A1 20010117 (9)

PRAI US 2000-179065P 20000131 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 27531  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 88 OF 136 USPATFULL  
AN 2002:165191 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002086820 A1 20020704  
AI US 2001-764862 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 17727  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 89 OF 136 USPATFULL  
AN 2002:165182 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002086811 A1 20020704  
AI US 2001-764861 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)  
US 2000-236327P 20000929 (60)  
US 2000-241785P 20001020 (60)  
US 2000-244617P 20001101 (60)  
US 2000-225268P 20000814 (60)  
US 2000-236368P 20000929 (60)  
US 2000-251856P 20001208 (60)  
US 2000-251868P 20001208 (60)

US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 22023

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 90 OF 136 USPATFULL

AN 2002:164735 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002086353 A1 20020704

AI US 2001-764856 A1 20010117 (9)

PRAI US 2000-179065P 20000131 (60)

US 2000-180628P 20000204 (60)

US 2000-214886P 20000628 (60)

US 2000-217487P 20000711 (60)

US 2000-225758P 20000814 (60)

US 2000-220963P 20000726 (60)

US 2000-217496P 20000711 (60)

US 2000-225447P 20000814 (60)

US 2000-218290P 20000714 (60)

US 2000-225757P 20000814 (60)

US 2000-226868P 20000822 (60)

US 2000-216647P 20000707 (60)

US 2000-225267P 20000814 (60)

US 2000-216880P 20000707 (60)

US 2000-225270P 20000814 (60)

US 2000-251869P 20001208 (60)

US 2000-235834P 20000927 (60)

US 2000-234274P 20000921 (60)

US 2000-234223P 20000921 (60)

US 2000-228924P 20000830 (60)

US 2000-224518P 20000814 (60)

US 2000-236369P 20000929 (60)

US 2000-224519P 20000814 (60)

US 2000-220964P 20000726 (60)

US 2000-241809P 20001020 (60)

US 2000-249299P 20001117 (60)

US 2000-236327P 20000929 (60)

US 2000-241785P 20001020 (60)

US 2000-244617P 20001101 (60)

US 2000-225268P 20000814 (60)

US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 23314

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 91 OF 136 USPATFULL

AN 2002:164712 USPATFULL

TI Nucleic acids, proteins, and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

PI US 2002086330 A1 20020704

AI US 2001-764893 A1 20010117 (9)

PRAI US 2000-179065P 20000131 (60)

US 2000-180628P 20000204 (60)

US 2000-214886P 20000628 (60)

US 2000-217487P 20000711 (60)

US 2000-225758P 20000814 (60)

US 2000-220963P 20000726 (60)

US 2000-217496P 20000711 (60)

US 2000-225447P 20000814 (60)

US 2000-218290P 20000714 (60)

US 2000-225757P 20000814 (60)

US 2000-226868P 20000822 (60)

US 2000-216647P 20000707 (60)

US 2000-225267P 20000814 (60)

US 2000-216880P 20000707 (60)

US 2000-225270P 20000814 (60)

US 2000-251869P 20001208 (60)

US 2000-235834P 20000927 (60)

US 2000-234274P 20000921 (60)

US 2000-234223P 20000921 (60)

US 2000-228924P 20000830 (60)

US 2000-224518P 20000814 (60)

US 2000-236369P 20000929 (60)

US 2000-224519P 20000814 (60)

US 2000-220964P 20000726 (60)

US 2000-241809P 20001020 (60)

US 2000-249299P 20001117 (60)

US 2000-236327P 20000929 (60)

US 2000-241785P 20001020 (60)  
 US 2000-244617P 20001101 (60)  
 US 2000-225268P 20000814 (60)  
 US 2000-236368P 20000929 (60)  
 US 2000-251856P 20001208 (60)  
 US 2000-251868P 20001208 (60)  
 US 2000-229344P 20000901 (60)  
 US 2000-234997P 20000925 (60)  
 US 2000-229343P 20000901 (60)  
 US 2000-229345P 20000901 (60)  
 US 2000-229287P 20000901 (60)  
 US 2000-229513P 20000905 (60)  
 US 2000-231413P 20000908 (60)  
 US 2000-229509P 20000905 (60)  
 US 2000-236367P 20000929 (60)  
 US 2000-237039P 20001002 (60)  
 US 2000-237038P 20001002 (60)  
 US 2000-236370P 20000929 (60)  
 US 2000-236802P 20001002 (60)  
 US 2000-237037P 20001002 (60)  
 US 2000-237040P 20001002 (60)  
 US 2000-240960P 20001020 (60)  
 US 2000-239935P 20001013 (60)

DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 25862  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 92 OF 136 USPATFULL  
 AN 2002:164414 USPATFULL  
 TI Omp85 proteins of **neisseria gonorrhoeae** and **neisseria**  
 meningitidis, compositions containing same and methods of use thereof  
 IN Judd, Ralph C., Florence, MT, UNITED STATES  
 Manning, D. Scott, Missoula, MT, UNITED STATES  
 PI US 2002086028 A1 20020704  
 AI US 2001-994192 A1 20011126 (9)  
 RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING  
 DT Utility  
 FS APPLICATION  
 LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321  
 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477  
 CLMN Number of Claims: 25  
 ECL Exemplary Claim: 1  
 DRWN 10 Drawing Page(s)  
 LN.CNT 2013  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 93 OF 136 USPATFULL  
 AN 2002:157060 USPATFULL  
 TI Nucleic acids, proteins and antibodies  
 IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
 Ruben, Steven M., Olney, MD, UNITED STATES  
 PI US 2002081659 A1 20020627  
 AI US 2001-925297 A1 20010810 (9)  
 RLI Continuation-in-part of Ser. No. WO 2000-US5989, filed on 8 Mar 2000,  
 UNKNOWN  
 PRAI US 1999-124270P 19990312 (60)  
 DT Utility  
 FS APPLICATION  
 LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20326  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 94 OF 136 USPATFULL  
AN 2002:157008 USPATFULL  
TI Four disulfide core domain-containing (FDCD) polynucleotides,  
polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002081607 A1 20020627  
AI US 2001-874062 A1 20010606 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US32462, filed on 29 Nov 2000,  
UNKNOWN  
PRAI US 1999-168229P 19991201 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11572  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 95 OF 136 USPATFULL  
AN 2002:149306 USPATFULL  
TI ADAM polynucleotides, polypeptides, and antibodies  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002077465 A1 20020620  
AI US 2001-945676 A1 20010905 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US5497, filed on 22 Feb 2001,  
UNKNOWN  
PRAI US 2000-187937P 20000303 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12287  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 96 OF 136 USPATFULL  
AN 2002:149299 USPATFULL  
TI Death domain-containing receptor polynucleotides, polypeptides, and  
antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002077458 A1 20020620  
AI US 2001-835788 A1 20010417 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US28666, filed on 17 Oct 2000,  
UNKNOWN  
PRAI US 1999-159585P 19991018 (60)  
US 1999-167246P 19991124 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 14143

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 97 OF 136 USPATFULL  
AN 2002:149131 USPATFULL  
TI 28 human secreted proteins  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Li, Yi, Sunnyvale, CA, UNITED STATES  
Zeng, Zhizhen, Lansdale, PA, UNITED STATES  
Kyaw, Hla, Frederick, MD, UNITED STATES  
Fischer, Carrie L., Burke, VA, UNITED STATES  
Li, Haodong, Gaithersburg, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Gentz, Reiner L., Rockville, MD, UNITED STATES  
Wei, Ying-Fei, Berkeley, CA, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Greene, John M., Gaithersburg, MD, UNITED STATES  
Ferrie, Ann M., Tewksbury, MA, UNITED STATES  
PI US 2002077287 A1 20020620  
AI US 2001-852659 A1 20010511 (9)  
RLI Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998,  
UNKNOWN  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 17779

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 98 OF 136 USPATFULL  
AN 2002:149114 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002077270 A1 20020620  
AI US 2001-764848 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)



US 2000-241809P	20001020 (60)
US 2000-249299P	20001117 (60)
US 2000-236327P	20000929 (60)
US 2000-241785P	20001020 (60)
US 2000-244617P	20001101 (60)
US 2000-225268P	20000814 (60)
US 2000-236368P	20000929 (60)
US 2000-251856P	20001208 (60)
US 2000-251868P	20001208 (60)
US 2000-229344P	20000901 (60)
US 2000-234997P	20000925 (60)
US 2000-229343P	20000901 (60)
US 2000-229345P	20000901 (60)
US 2000-229287P	20000901 (60)
US 2000-229513P	20000905 (60)
US 2000-231413P	20000908 (60)
US 2000-229509P	20000905 (60)
US 2000-236367P	20000929 (60)
US 2000-237039P	20001002 (60)
US 2000-237038P	20001002 (60)
US 2000-236370P	20000929 (60)
US 2000-236802P	20001002 (60)
US 2000-237037P	20001002 (60)
US 2000-237040P	20001002 (60)
US 2000-240960P	20001020 (60)
US 2000-239935P	20001013 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 20057

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 99 OF 136 USPATFULL

AN 2002:148614 USPATFULL

TI 28 human secreted proteins

IN Ruben, Steven M., Olney, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Li, Yi, Sunnyvale, CA, UNITED STATES

Zeng, ZhiZhen, Lansdale, PA, UNITED STATES

Kyaw, Hla, Frederick, MD, UNITED STATES

Fischer, Carrie L., Burke, VA, UNITED STATES

Li, Haodong, Gaithersburg, MD, UNITED STATES

Soppet, Daniel R., Centreville, VA, UNITED STATES

Gentz, Reiner L., Rockville, MD, UNITED STATES

Wei, Ying-Fei, Berkeley, CA, UNITED STATES

Moore, Paul A., Germantown, MD, UNITED STATES

Young, Paul E., Gaithersburg, MD, UNITED STATES

Greene, John M., Gaithersburg, MD, UNITED STATES

Ferrie, Ann M., Painted Post, NY, UNITED STATES

PI US 2002076756 A1 20020620

AI US 2001-853161 A1 20010511 (9)

PRAI US 2001-265583P 20010202 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 17788

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 100 OF 136 USPATFULL  
AN 2002:144099 USPATFULL  
TI Plants and plant cells expressing histidine tagged intimin  
IN Stewart, Jr., C. Neal, Greensboro, NC, United States  
McKee, Marian L., Great Falls, VA, United States  
O'Brien, Alison D., Bethesda, MD, United States  
Wachtel, Marian R., Gaithersburg, MD, United States  
PA Henry M. Jackson Foundation for the Advancement of Military Medicine,  
Rockville, MD, United States (U.S. corporation)  
PI US 6406885 B1 20020618  
AI US 2000-696188 20001026 (9)  
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented,  
Pat. No. US 6261561  
PRAI US 1996-15938P 19960422 (60)  
US 1996-15657P 19960419 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny  
Allen  
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1  
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)  
LN.CNT 2819  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 101 OF 136 USPATFULL  
AN 2002:141609 USPATFULL  
TI Transferrin polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002072596 A1 20020613  
AI US 2001-891126 A1 20010626 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US34769, filed on 21 Dec 2000,  
UNKNOWN  
PRAI US 1999-171595P 19991223 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12048  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 102 OF 136 USPATFULL  
AN 2002:141109 USPATFULL  
TI Death domain containing receptor 5  
IN Ni, Jian, Rockville, MD, UNITED STATES  
Gentz, Reiner L., Rockville, MD, UNITED STATES  
Yu, Guo-Liang, Berkeley, CA, UNITED STATES  
Rosen, Craig A., Laytonville, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD, 20850 (U.S. corporation)  
PI US 2002072091 A1 20020613  
AI US 2001-874138 A1 20010606 (9)  
RLI Continuation of Ser. No. US 2000-565009, filed on 4 May 2000, PENDING  
Continuation of Ser. No. US 1998-42583, filed on 17 Mar 1998, PENDING  
PRAI US 1999-148939P 19990813 (60)  
US 1999-133238P 19990507 (60)  
US 1999-132498P 19990504 (60)  
US 1997-40846P 19970317 (60)  
US 1997-54021P 19970729 (60)  
DT Utility  
FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 NEW YORK AVENUE, N.W.,  
SUITE 600, WASHINGTON, DC, 20005-3934  
CLMN Number of Claims: 97  
ECL Exemplary Claim: 1  
DRWN 7 Drawing Page(s)  
LN.CNT 8943  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 103 OF 136 USPATFULL

AN 2002:137146 USPATFULL  
TI Antibodies to neutrokin- $\alpha$   
IN Yu, Guo-Liang, Berkeley, CA, United States  
Ebner, Reinhard, Gaithersburg, MD, United States  
Ni, Jian, Rockville, MD, United States  
Rosen, Craig A., Laytonsville, MD, United States  
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S.  
corporation)  
PI US 6403770 B1 20020611  
AI US 2000-589287 20000608 (9)  
RLI Continuation of Ser. No. US 2000-507968, filed on 22 Feb 2000  
Continuation-in-part of Ser. No. US 1999-255794, filed on 23 Feb 1999  
Continuation-in-part of Ser. No. US 1998-5874, filed on 12 Jan 1998  
Continuation-in-part of Ser. No. WO 1996-US17957, filed on 25 Oct 1996  
PRAI US 2000-176015P 20000114 (60)  
US 1999-171626P 19991223 (60)  
US 1999-171108P 19991216 (60)  
US 1999-168624P 19991203 (60)  
US 1999-167239P 19991124 (60)  
US 1999-145824P 19990727 (60)  
US 1999-142659P 19990706 (60)  
US 1999-136784P 19990528 (60)  
US 1999-131673P 19990429 (60)  
US 1999-131278P 19990427 (60)  
US 1999-130696P 19990423 (60)  
US 1999-130412P 19990416 (60)  
US 1999-127598P 19990402 (60)  
US 1999-126599P 19990326 (60)  
US 1999-124097P 19990312 (60)  
US 1999-122388P 19990302 (60)  
US 1997-36100P 19970114 (60)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Kunz, Gary L.; Assistant Examiner: Prasad, Sarada C

LREP Human Genome Sciences, Inc.

CLMN Number of Claims: 292

ECL Exemplary Claim: 1

DRWN 11 Drawing Figure(s); 22 Drawing Page(s)

LN.CNT 15430

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 104 OF 136 USPATFULL

AN 2002:136784 USPATFULL  
TI Staphylococcus aureus genes and polypeptides  
IN Bailey, Camella, Washington, DC, United States  
Choi, Gil H., Rockville, MD, United States  
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S.  
corporation)  
PI US 6403337 B1 20020611  
AI US 2000-512255 20000224 (9)  
RLI Continuation-in-part of Ser. No. WO 1999-US19726, filed on 31 Aug 1999  
Continuation-in-part of Ser. No. US 1997-956171, filed on 20 Oct 1997  
Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan 1997  
Continuation-in-part of Ser. No. US 1997-781986, filed on 5 Jan 1997  
Continuation-in-part of Ser. No. US 1997-781986, filed on 5 Jan 1997

DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Brusca, John S.  
LREP Human Genome Sciences, Inc.  
CLMN Number of Claims: 65  
ECL Exemplary Claim: 1  
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)  
LN.CNT 6784  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 105 OF 136 USPATFULL  
AN 2002:133469 USPATFULL  
TI Serine protease polynucleotides, polypeptides, and antibodies  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PI US 2002068320 A1 20020606  
AI US 2001-804156 A1 20010313 (9)  
PRAI US 2000-189025P 20000314 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 13119  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 106 OF 136 USPATFULL  
AN 2002:126703 USPATFULL  
TI Immunoglobulin superfamily polynucleotides, polypeptides, and antibodies  
IN Young, Paul E., Gaithersburg, MD, UNITED STATES  
Ni, Jain, Rockville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002065220 A1 20020530  
AI US 2001-799514 A1 20010307 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US23662, filed on 29 Aug 2000,  
UNKNOWN  
PRAI US 1999-152248P 19990903 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12437  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 107 OF 136 USPATFULL  
AN 2002:126332 USPATFULL  
TI Human protein tyrosine phosphatase polynucleotides, polypeptides, and  
antibodies  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002064844 A1 20020530  
AI US 2001-906779 A1 20010718 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US1563, filed on 17 Jan 2001,  
UNKNOWN  
PRAI US 2000-176306P 20000118 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22

ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12129  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 108 OF 136 USPATFULL  
AN 2002:126314 USPATFULL  
TI Cytokine receptor-like polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002064826 A1 20020530  
AI US 2001-874069 A1 20010606 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US32525, filed on 30 Nov 2000,  
UNKNOWN  
PRAI US 1999-168621P 19991203 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12089  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 109 OF 136 USPATFULL  
AN 2002:126306 USPATFULL  
TI 52 human secreted proteins  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Baker, Kevin P., Darnestown, MD, UNITED STATES  
Birse, Charles E., North Potomac, MD, UNITED STATES  
Fiscella, Michele, Bethesda, MD, UNITED STATES  
Komatsoulis, George A., Silver Spring, MD, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Duan, D. Roxanne, Bethesda, MD, UNITED STATES  
Olsen, Henrik S., Gaithersburg, MD, UNITED STATES  
LaFleur, David W., Washington, DC, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Wei, Ping, Brookeville, MD, UNITED STATES  
Florence, Kimberly A., Rockville, MD, UNITED STATES  
PI US 2002064818 A1 20020530  
AI US 2001-789561 A1 20010222 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US24008, filed on 31 Aug 2000,  
UNKNOWN  
PRAI US 1999-152317P 19990903 (60)  
US 1999-152315P 19990903 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 24623  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 110 OF 136 USPATFULL  
AN 2002:116007 USPATFULL  
TI Identifying compounds inhibiting DC-sign facilitation of HIV into cells  
IN Littman, Dan R., New York, NY, United States

Kwon, Douglas, Long Island City, NY, United States  
Van Kooyk, Yvette, Nijmegen, NETHERLANDS  
Geijtenbeek, Teunis, Nijmegen, NETHERLANDS

PA New York University, New York, NY, United States (U.S. corporation)  
PI US 6391567 B1 20020521  
AI US 2000-517605 20000302 (9)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Crouch, Deborah; Assistant Examiner: Ton, Thaian N.  
LREP Klauber & Jackson, Gregg, Valeta  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1  
DRWN 32 Drawing Figure(s); 15 Drawing Page(s)  
LN.CNT 3439  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 111 OF 136 USPATFULL  
AN 2002:106416 USPATFULL  
TI Nucleic acids, proteins and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002055627 A1 20020509  
US 2003040617 A9 20030227  
AI US 2001-925299 A1 20010810 (9)  
RLI Continuation of Ser. No. WO 2000-US5883, filed on 8 Mar 2000, UNKNOWN  
PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20658  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 112 OF 136 USPATFULL  
AN 2002:105937 USPATFULL  
TI Major intrinsic protein (MIP)-like polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven A., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)  
PI US 2002055142 A1 20020509  
AI US 2001-862419 A1 20010523 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US31919, filed on 21 Nov 2000, UNKNOWN  
PRAI US 1999-167247P 19991124 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11747  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 113 OF 136 USPATFULL  
AN 2002:99407 USPATFULL  
TI Nucleic acids, proteins and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002052308 A1 20020502  
AI US 2001-925301 A1 20010810 (9)  
RLI Continuation of Ser. No. WO 2000-US5882, filed on 8 Mar 2000, UNKNOWN

PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 30577  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 114 OF 136 USPATFULL  
AN 2002:99088 USPATFULL  
TI Kringle domain-containing polynucleotides, polypeptides, and antibodies  
IN Ni, Jian, Germantown, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002051984 A1 20020502  
AI US 2001-848288 A1 20010504 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US30664, filed on 8 Nov 2000,  
UNKNOWN  
PRAI US 1999-164853P 19991112 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings.  
LN.CNT 12041  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 115 OF 136 USPATFULL  
AN 2002:95578 USPATFULL  
TI Method of transferring at least two saccharide units with a  
polyglycosyltransferase  
IN Johnson, Karl F., Willow Grove, PA, United States  
Roth, Stephen, Gladwyne, PA, United States  
Buczala, Stephanie L., Jenkintown, PA, United States  
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)  
PI US 6379933 B1 20020430  
AI US 1999-338943 19990624 (9)  
RLI Continuation of Ser. No. US 1995-478140, filed on 7 Jun 1995, now  
patented, Pat. No. US 6127153  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Prats, Francisco  
LREP Morgan, Lewis & Bockius, LLP  
CLMN Number of Claims: 18  
ECL Exemplary Claim: 1  
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 1220  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 116 OF 136 USPATFULL  
AN 2002:85190 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Rubin, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002045230 A1 20020418  
AI US 2001-908711 A1 20010720 (9)  
RLI Continuation-in-part of Ser. No. WO 2001-US1360, filed on 17 Jan 2001,  
UNKNOWN Continuation-in-part of Ser. No. US 2001-764867, filed on 17 Jan  
2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1344, filed on  
17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764892,

filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO  
 2001-US1345, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser.  
 No. US 2001-764888, filed on 17 Jan 2001, UNKNOWN Continuation-in-part  
 of Ser. No. WO 2001-US1329, filed on 17 Jan 2001, UNKNOWN  
 Continuation-in-part of Ser. No. US 2001-764905, filed on 17 Jan 2001,  
 UNKNOWN Continuation-in-part of Ser. No. US 2001-764891, filed on 17 Jan  
 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1339, filed on  
 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764869,  
 filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO  
 2001-US1340, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser.  
 No. US 2001-764874, filed on 17 Jan 2001, UNKNOWN Continuation-in-part  
 of Ser. No. WO 2001-US1334, filed on 17 Jan 2001, UNKNOWN  
 Continuation-in-part of Ser. No. US 2001-764898, filed on 17 Jan 2001,  
 UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1320, filed on 17 Jan  
 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764853, filed on  
 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764902,  
 filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO  
 2001-US1239, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser.  
 No. US 2001-764870, filed on 17 Jan 2001, UNKNOWN Continuation-in-part  
 of Ser. No. WO 2001-US1348, filed on 17 Jan 2001, UNKNOWN  
 Continuation-in-part of Ser. No. US 2001-764882, filed on 17 Jan 2001,  
 UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1347, filed on 17 Jan  
 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764896, filed on  
 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1307,  
 filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US  
 2001-764864, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser.  
 No. WO 2001-US1341, filed on 17 Jan 2001, UNKNOWN Continuation-in-part  
 of Ser. No. US 2001-764856, filed on 17 Jan 2001, UNKNOWN  
 Continuation-in-part of Ser. No. WO 2001-US1336, filed on 17 Jan 2001,  
 UNKNOWN Continuation-in-part of Ser. No. US 2001-764868, filed on 17 Jan  
 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1312, filed on  
 17 Jan 2001, UNKNOWN

PRAI	US 2000-179065P	20000131 (60)
	US 2000-180628P	20000204 (60)
	US 2000-251868P	20001208 (60)
	US 2000-232398P	20000914 (60)
	US 2000-249300P	20001117 (60)
	US 2000-251990P	20001208 (60)
	US 2000-250160P	20001201 (60)
	US 2000-209467P	20000607 (60)
	US 2000-179065P	20000131 (60)
	US 2000-180628P	20000204 (60)
	US 2000-214886P	20000628 (60)
	US 2000-217487P	20000711 (60)
	US 2000-225758P	20000814 (60)
	US 2000-220963P	20000726 (60)
	US 2000-217496P	20000711 (60)
	US 2000-225447P	20000814 (60)
	US 2000-218290P	20000714 (60)
	US 2000-225757P	20000814 (60)
	US 2000-226868P	20000822 (60)
	US 2000-216647P	20000707 (60)
	US 2000-225267P	20000814 (60)
	US 2000-216880P	20000707 (60)
	US 2000-225270P	20000814 (60)
	US 2000-251869P	20001208 (60)
	US 2000-235834P	20000927 (60)
	US 2000-234274P	20000921 (60)
	US 2000-234223P	20000921 (60)
	US 2000-228924P	20000830 (60)
	US 2000-224518P	20000814 (60)
	US 2000-236369P	20000929 (60)
	US 2000-224519P	20000814 (60)
	US 2000-220964P	20000726 (60)



US 2000-232398P	20000914 (60)
US 2000-234998P	20000925 (60)
US 2000-246477P	20001108 (60)
US 2000-246528P	20001108 (60)
US 2000-246525P	20001108 (60)
US 2000-246476P	20001108 (60)
US 2000-246526P	20001108 (60)
US 2000-249209P	20001117 (60)
US 2000-246527P	20001108 (60)
US 2000-246523P	20001108 (60)
US 2000-246524P	20001108 (60)
US 2000-246478P	20001108 (60)
US 2000-246609P	20001108 (60)
US 2000-246613P	20001108 (60)
US 2000-249300P	20001117 (60)
US 2000-249265P	20001117 (60)
US 2000-246610P	20001108 (60)
US 2000-246611P	20001108 (60)
US 2000-230437P	20000906 (60)
US 2000-251990P	20001208 (60)
US 2000-251988P	20001205 (60)
US 2000-251030P	20001205 (60)
US 2000-251479P	20001206 (60)
US 2000-256719P	20001205 (60)
US 2000-250160P	20001201 (60)
US 2000-251989P	20001208 (60)
US 2000-250391P	20001201 (60)
US 2000-254097P	20001211 (60)
US 2000-231968P	20000912 (60)
US 2000-226279P	20000818 (60)
US 2000-186350P	20000302 (60)
US 2000-184664P	20000224 (60)
US 2000-189874P	20000316 (60)
US 2000-198123P	20000418 (60)
US 2000-227009P	20000823 (60)
US 2000-235484P	20000926 (60)
US 2000-190076P	20000317 (60)
US 2000-209467P	20000607 (60)
US 2000-205515P	20000519 (60)
US 2001-259678P	20010105 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 24

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 24462

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 117 OF 136 USPATFULL

AN 2002:84902 USPATFULL

TI Nucleic acids, proteins and antibodies

IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002044941 A1 20020418

US 2003064072 A9 20030403

AI US 2001-925302 A1 20010810 (9)

RLI Continuation-in-part of Ser. No. WO 2000-US5918, filed on 8 Mar 2000, UNKNOWN

PRAI US 1999-124270P 19990312 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23

ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 21121  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 118 OF 136 USPATFULL  
AN 2002:78729 USPATFULL  
TI Nucleic acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
Barash, Steven C., Rockville, MD, UNITED STATES  
PI US 2002042386 A1 20020411  
AI US 2001-764870 A1 20010117 (9)  
PRAI US 2000-179065P 20000131 (60)  
US 2000-180628P 20000204 (60)  
US 2000-214886P 20000628 (60)  
US 2000-217487P 20000711 (60)  
US 2000-225758P 20000814 (60)  
US 2000-220963P 20000726 (60)  
US 2000-217496P 20000711 (60)  
US 2000-225447P 20000814 (60)  
US 2000-218290P 20000714 (60)  
US 2000-225757P 20000814 (60)  
US 2000-226868P 20000822 (60)  
US 2000-216647P 20000707 (60)  
US 2000-225267P 20000814 (60)  
US 2000-216880P 20000707 (60)  
US 2000-225270P 20000814 (60)  
US 2000-251869P 20001208 (60)  
US 2000-235834P 20000927 (60)  
US 2000-234274P 20000921 (60)  
US 2000-234223P 20000921 (60)  
US 2000-228924P 20000830 (60)  
US 2000-224518P 20000814 (60)  
US 2000-236369P 20000929 (60)  
US 2000-224519P 20000814 (60)  
US 2000-220964P 20000726 (60)  
US 2000-241809P 20001020 (60)  
US 2000-249299P 20001117 (60)  
US 2000-236327P 20000929 (60)  
US 2000-241785P 20001020 (60)  
US 2000-244617P 20001101 (60)  
US 2000-225268P 20000814 (60)  
US 2000-236368P 20000929 (60)  
US 2000-251856P 20001208 (60)  
US 2000-251868P 20001208 (60)  
US 2000-229344P 20000901 (60)  
US 2000-234997P 20000925 (60)  
US 2000-229343P 20000901 (60)  
US 2000-229345P 20000901 (60)  
US 2000-229287P 20000901 (60)  
US 2000-229513P 20000905 (60)  
US 2000-231413P 20000908 (60)  
US 2000-229509P 20000905 (60)  
US 2000-236367P 20000929 (60)  
US 2000-237039P 20001002 (60)  
US 2000-237038P 20001002 (60)  
US 2000-236370P 20000929 (60)  
US 2000-236802P 20001002 (60)  
US 2000-237037P 20001002 (60)  
US 2000-237040P 20001002 (60)  
US 2000-240960P 20001020 (60)  
US 2000-239935P 20001013 (60)  
DT Utility

FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 23133  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 119 OF 136 USPATFULL  
AN 2002:78715 USPATFULL  
TI Stanniocalcin polynucleotides, polypeptides, and methods based thereon  
IN Olsen, Henrik S., Gaithersburg, MD, UNITED STATES  
Zhang, Ke-Zhou, Brussels, BELGIUM  
Lindsberg, Perttu, Helsinki, FINLAND  
Tatlisumak, Turgut, Helsinki, FINLAND  
Kaste, Markku, Vantaa, FINLAND  
Andersson, Leif C., Helsinki, FINLAND  
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)  
PI US 2002042372 A1 20020411  
AI US 2001-840989 A1 20010425 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US29432, filed on 26 Oct 2000, UNKNOWN  
PRAI US 1999-161740P 19991027 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 47  
ECL Exemplary Claim: 1  
DRWN 12 Drawing Page(s)  
LN.CNT 9559  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 120 OF 136 USPATFULL  
AN 2002:72627 USPATFULL  
TI Nucleic, acids, proteins, and antibodies  
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002039764 A1 20020404  
AI US 2001-925298 A1 20010810 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000, UNKNOWN  
PRAI US 1999-124270P 19990312 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20087  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 121 OF 136 USPATFULL  
AN 2002:66896 USPATFULL  
TI ABC transport polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Ni, Jian, Germantown, MD, UNITED STATES  
Moore, Paul A., Germantown, MD, UNITED STATES  
PI US 2002037549 A1 20020328  
AI US 2001-767870 A1 20010124 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US19736, filed on 20 Jul 2000, UNKNOWN  
PRAI US 1999-145215P 19990723 (60)  
US 1999-149445P 19990818 (60)

US 1999-164730P 19991112 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12219  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 122 OF 136 USPATFULL  
AN 2002:66870 USPATFULL  
TI IL-6-like polynucleotides, polypeptides, and antibodies  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
PI US 2002037523 A1 20020328  
AI US 2001-875016 A1 20010607 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US33134, filed on 7 Dec 2000,  
UNKNOWN  
PRAI US 1999-169838P 19991209 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 11587  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 123 OF 136 USPATFULL  
AN 2002:50802 USPATFULL  
TI Computer readable genomic sequence of Haemophilus influenzae Rd,  
fragments thereof, and uses thereof  
IN Fleischmann, Robert D., Gaithersburg, MD, United States  
Adams, Mark D., N. Potomac, MD, United States  
White, Owen, Gaithersburg, MD, United States  
Smith, Hamilton O., Towson, MD, United States  
Venter, J. Craig, Potomac, MD, United States  
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S.  
corporation)  
PI US 6355450 B1 20020312  
AI US 1995-476102 19950607 (8)  
RLI Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995,  
now abandoned  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Campell, Bruce R.  
CLMN Number of Claims: 88  
ECL Exemplary Claim: 1  
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)  
LN.CNT 4666  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 124 OF 136 USPATFULL  
AN 2002:48258 USPATFULL  
TI 26 Human secreted proteins  
IN Ruben, Steven M., Olney, MD, UNITED STATES  
Birse, Charles E., North Potomac, MD, UNITED STATES  
Duan, Roxanne D., Bethesda, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Rosen, Craig A., Laytonsville, MD, UNITED STATES  
Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
LaFleur, David W., Washington, DC, UNITED STATES  
Olsen, Henrik, Gaithersburg, MD, UNITED STATES

Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Florence, Kimberly A., Rockville, MD, UNITED STATES  
Ni, Jian, Rockville, MD, UNITED STATES  
Young, Paul, Gaithersburg, MD, UNITED STATES

PI US 2002028449 A1 20020307  
AI US 2000-726643 A1 20001201 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US15187, filed on 2 Jun 2000,  
UNKNOWN  
PRAI US 1999-137725P 19990607 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 20287  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 125 OF 136 USPATFULL

AN 2002:22131 USPATFULL  
TI 18 Human secreted proteins  
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES  
Young, Paul E., Gaithersburg, MD, UNITED STATES  
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES  
Soppet, Daniel R., Centreville, VA, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002012966 A1 20020131  
AI US 2001-768826 A1 20010125 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US22350, filed on 15 Aug 2000,  
UNKNOWN  
PRAI US 1999-148759P 19990816 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 23  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 18157  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 126 OF 136 USPATFULL

AN 2002:19176 USPATFULL  
TI Method of detecting shigella and shigella mxim DNA  
IN Schuch, Raymond, Washington, DC, United States  
Sandlin, Robin C., Columbia, MD, United States  
Maurelli, Anthony T., Silver Spring, MD, United States  
PA The Henry M. Jackson Foundation for the Advancement of Military  
Medicine, Rockville, MD, United States (U.S. corporation)  
PI US 6342352 B1 20020129  
AI US 1999-296670 19990422 (9)  
PRAI US 1998-82944P 19980424 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Devi, S.  
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.  
CLMN Number of Claims: 3  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)  
LN.CNT 2019  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 127 OF 136 USPATFULL

AN 2002:12261 USPATFULL  
TI Uteroglobin-like polynucleotides, polypeptides, and antibodies

IN Ni, Jian, Germantown, MD, UNITED STATES  
Ruben, Steven M., Olney, MD, UNITED STATES  
PI US 2002006640 A1 20020117  
AI US 2001-846258 A1 20010502 (9)  
RLI Continuation-in-part of Ser. No. WO 2000-US30326, filed on 3 Nov 2000,  
UNKNOWN  
PRAI US 1999-163395P 19991104 (60)  
DT Utility  
FS APPLICATION  
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850  
CLMN Number of Claims: 22  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 12076  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 128 OF 136 USPATFULL  
AN 2002:12031 USPATFULL  
TI HISTIDINE-TAGGED INTIMIN AND METHODS OF USING INTIMIN TO STIMULATE AN  
IMMUNE RESPONSE AND AS AN ANTIGEN CARRIER WITH TARGETING CAPABILITY  
IN MCKEE, MARIAN L., GREAT FALLS, VA, UNITED STATES  
O'BRIEN, ALISON D., BETHESDA, MD, UNITED STATES  
WACHTEL, MARIAN R., GAITHERSBURG, MD, UNITED STATES  
PA Henry M. Jackson Foundation for the Advancement of Military Medicine  
(U.S. corporation)  
PI US 2002006407 A1 20020117  
AI US 1997-837459 A1 19970418 (8)  
PRAI US 1996-15657P 19960419 (60)  
US 1996-15936P 19960422 (60)  
DT Utility  
FS APPLICATION  
LREP FINNEGAN HENDERSON FARABOW GARRETT &, DUNNER, 1300 I STREET NW,  
WASHINGTON, DC, 200053315  
CLMN Number of Claims: 50  
ECL Exemplary Claim: 1  
DRWN 18 Drawing Page(s)  
LN.CNT 2287  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 129 OF 136 USPATFULL  
AN 2002:9854 USPATFULL  
TI Vectors and methods for immunization or therapeutic protocols  
IN Krieg, Arthur M., Iowa City, IA, United States  
Davis, Heather L., Ottawa, CANADA  
Wu, Tong, Hull, CANADA  
Schorr, Joachim, Hilden, GERMANY, FEDERAL REPUBLIC OF  
PA University of Iowa Research Foundation, Iowa City, IA, United States  
(U.S. corporation)  
Loeb Health Research Institute at the Ottawa Hospital, Ottawa, CANADA  
(non-U.S. corporation)  
Coley Pharmaceutical GmbH, Langenfeld, GERMANY, FEDERAL REPUBLIC OF  
(non-U.S. corporation)  
PI US 6339068 B1 20020115  
AI US 1998-82649 19980520 (9)  
PRAI US 1997-47209P 19970520 (60)  
US 1997-47233P 19970520 (60)  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Nguyen, Dave T.  
LREP Wolf, Greenfield & Sacks, P. C.  
CLMN Number of Claims: 109  
ECL Exemplary Claim: 1  
DRWN 15 Drawing Figure(s); 15 Drawing Page(s)  
LN.CNT 4069

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 130 OF 136 USPATFULL

AN 2002:8489 USPATFULL

TI Retinoid receptor interacting polynucleotides, polypeptides, and antibodies

IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002004489 A1 20020110

AI US 2001-788600 A1 20010221 (9)

RLI Continuation-in-part of Ser. No. WO 2000-US22351, filed on 15 Aug 2000, UNKNOWN

PRAI US 1999-148757P 19990816 (60)

US 2000-189026P 20000314 (60)

DT Utility

FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 22

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 11257

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 131 OF 136 USPATFULL

AN 2000:131625 USPATFULL

TI Method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and gene encoding a polyglycosyltransferase

IN Johnson, Karl F., Willow Grove, PA, United States

Roth, Stephen, Gladwyne, PA, United States

Buczala, Stephanie L., Jenkintown, PA, United States

PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)

PI US 6127153 20001003

AI US 1995-478140 19950607 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Prats, Francisco

LREP Pennie & Edmonds LLP

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN 10 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 1270

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 132 OF 136 USPATFULL

AN 2000:102420 USPATFULL

TI Lactobacilli harboring aggregation gene as a vaccine delivery vehicle

IN Casas, Ivan, Raleigh, NC, United States

Jonsson, Hans, Uppsala, Sweden

Mollstam, Bo, Lerum, Sweden

Roos, Stefan, Uppsala, Sweden

PA BioGaia Biologies AB, Stockholm, Sweden (non-U.S. corporation)

PI US 6100388 20000808

AI US 1998-39773 19980316 (9).

DT Utility

FS Granted

EXNAM Primary Examiner: Minnifield, Nita

LREP Standley & Gilcrest LLP

CLMN Number of Claims: 1

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1170

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 133 OF 136 USPATFULL

AN 2000:24298 USPATFULL  
 TI Mucosal immunogens for novel **vaccines**  
 IN Russell, Michael William, Birmingham, AL, United States  
 Hajishengallis, Georgios, Birmingham, AL, United States  
 Hollingshead, Susan K., Birmingham, AL, United States  
 Wu, Hong-Yin, Hoover, AL, United States  
 Michalek, Suzanne Mary, Birmingham, AL, United States  
 PA UAB Research Foundation, Birmingham, AL, United States (U.S. corporation)  
 PI US 6030624 20000229  
 AI US 1997-912180 19970815 (8)  
 PRAI US 1996-24074P 19960816 (60)  
 DT Utility  
 FS Granted  
 EXNAM Primary Examiner: Mosher, Mary E.  
 LREP Adler, Benjamin Aaron  
 CLMN Number of Claims: 11  
 ECL Exemplary Claim: 1  
 DRWN 25 Drawing Figure(s); 26 Drawing Page(s)  
 LN.CNT 1925  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 134 OF 136 USPATFULL

AN 1998:139022 USPATFULL  
 TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin  
 IN Normark, Staffan, Clayton, MO, United States  
 Jonsson, Ann-Beth, Umea, Sweden  
 PA Washington University, St. Louis, MO, United States (U.S. corporation)  
 PI US 5834591 19981110  
 AI US 1995-415788 19950403 (8)  
 RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned  
 DT Utility  
 FS Granted  
 EXNAM Primary Examiner: Sidberry, Hazel F.  
 CLMN Number of Claims: 44  
 ECL Exemplary Claim: 1  
 DRWN 18 Drawing Figure(s); 18 Drawing Page(s)  
 LN.CNT 3804  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 135 OF 136 USPATFULL

AN 1998:128130 USPATFULL  
 TI Shigella vector for delivering DNA to a mammalian cell  
 IN Branstrom, Arthur A., Rockville, MD, United States  
 Sizemore, Donata R., Gaithersburg, MD, United States  
 Sadoff, Jerald C., Washington, DC, United States  
 PA The United States of America as represented by the Secretary of the Army, Washington, DC, United States (U.S. government)  
 PI US 5824538 19981020  
 AI US 1995-523855 19950906 (8)  
 DT Utility  
 FS Granted  
 EXNAM Primary Examiner: Lankford, Jr., Leon B.; Assistant Examiner: Tate, Christopher R.  
 LREP Harris, Charles H., Moran, John Francis  
 CLMN Number of Claims: 17  
 ECL Exemplary Claim: 1  
 DRWN 11 Drawing Figure(s); 4 Drawing Page(s)



LN.CNT 1304

L12 ANSWER 136 OF 136 USPATFULL  
AN 95:13604 USPATFULL  
TI Avirulent microbes and uses therefor  
IN Gurtiss, III, Roy, St. Louis, MO, United States  
PA Washington University, St. Louis, MO, United States (U.S. corporation)  
PI US 5389368 19950214  
AI US 1992-965607 19921022 (7)  
DCD 20110315  
RLI Continuation of Ser. No. US 1988-200934, filed on 1 Jun 1988, now  
abandoned which is a continuation-in-part of Ser. No. US 1987-58360,  
filed on 4 Jun 1987, now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Low, Christopher S. F.  
LREP Rogers, Howell & Haferkamp  
CLMN Number of Claims: 11  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Figure(s); 8 Drawing Page(s)  
LN.CNT 2106  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	294.45	337.36
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.65	-0.65

STN INTERNATIONAL LOGOFF AT 14:03:04 ON 28 APR 2003